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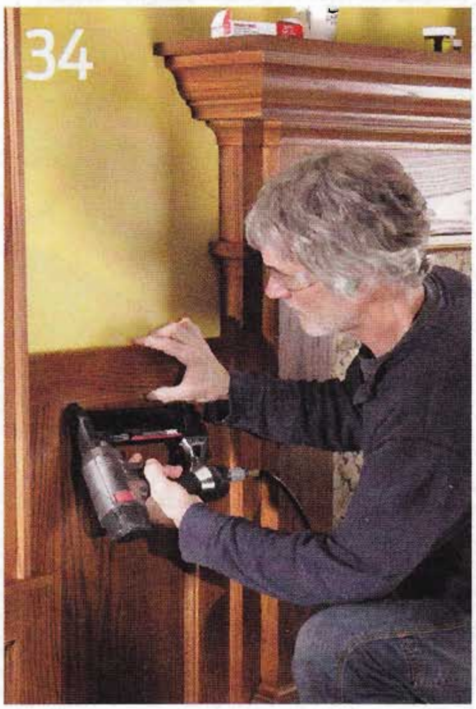
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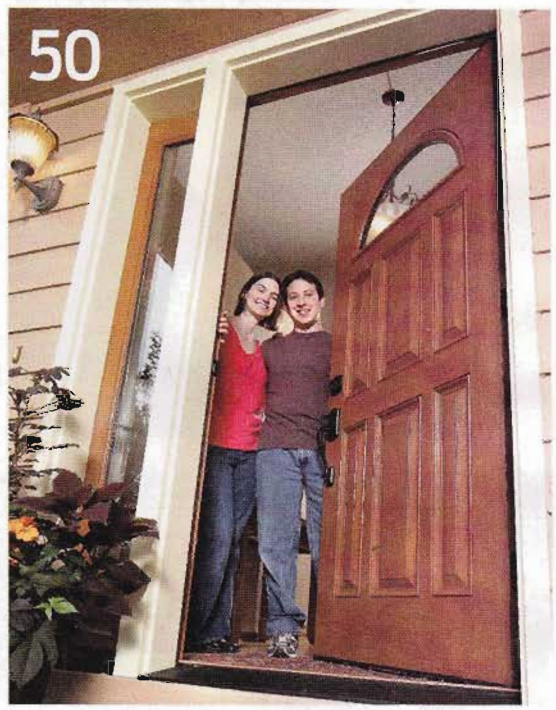
TABLE OF CONTENTS

APRIL 2010 VOLUME 60, NO. 4, 507th EDITION

Features









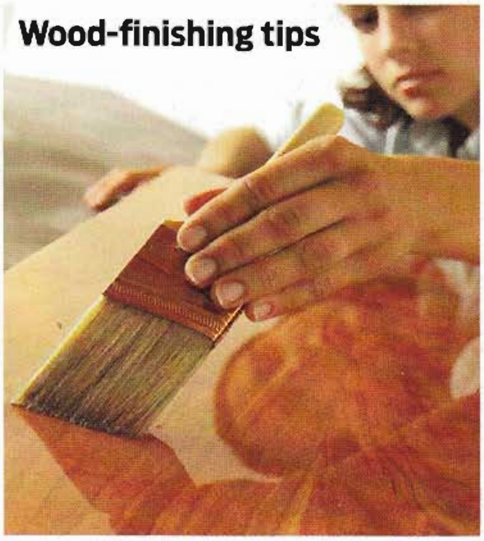
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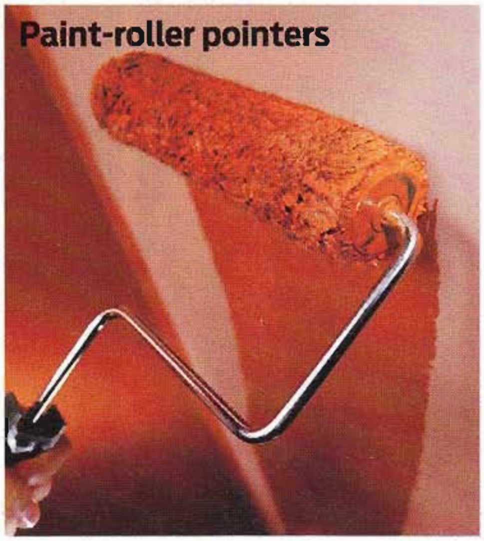
Departments

Cover Photo TOM FENENGA

TABLE OF CONTENTS

thefamilyhandyman.com









To find any of these articles after April 7, go to "Web Article Archive" on our home page.

Meet a Field Editor

Josh Schaaf

Bealeton, VA



When it comes to home improvement, Josh has done a bit of everything: carpentry, electrical, plumbing—and lots of landscaping (he runs his own landscape architecture firm). But his passion is "turning a pile of raw wood into something beautiful." Working alongside his granddad, a veteran woodworker, Josh has filled his home with Arts & Crafts furniture.

Want to become a Field Editor?

We're always looking for volunteers willing to share their experiences. Whether you're a pro or a DIY beginner, e-mail us at editors@thefamilyhandyman.com.

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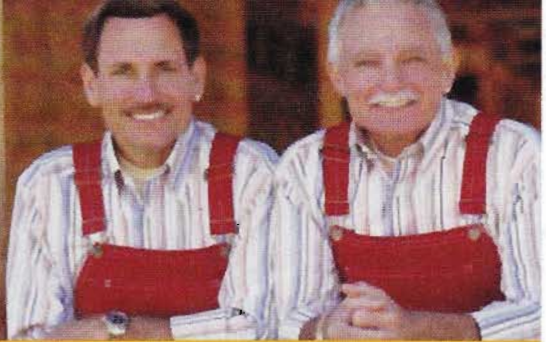
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We welcome your ideas and opinions. Write to:
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2915 Commers Dr., Suite 700,
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E-mail: editors@thefamilyhandyman.com

On the House

With the Carey Brothers

Tips of the Month



Paint Brush Revival

Got a favorite paintbrush that's seen better days? Cook it. If you've got an expensive brush that's dried out and stiff, making paint look like it was applied with a broom, revive it by boiling some vinegar and pouring it into an old coffee can or disposable aluminum pan. Immerse the bristles of your brush and let them soak for a bit. Then wash with liquid dish soap and hot water, rinse, let dry and "presto soft-o!" — your cherished paint pal is back.

Latex Paint Spills on Carpet

Spilled some latex paint on your carpet? Just act fast, use plenty of water and relax! Immediately scoop up any excess paint using cardboard, a dust pan or putty knife. Don't wipe or rub or you'll push the paint down into your carpet. Then use plenty of water and start blotting with a clean, wet (not damp) rag. Keep on blotting and rinsing with clean water until the stain is completely gone, then, using a dry cloth, blot up as much water as you can and dry with a fan. For small drips and splatters, do just the opposite — let them dry first and snip them off with scissors.

Toilet Tune-up

Do you hear a dripping sound coming from the toilet, but there's no sign of water leaking? First, lift off the tank lid and check the water level. If it's right up at the top of the overflow tube, the problem is likely a malfunctioning "fill valve" or "ball cock." Lowering the float will lower the water level by turning the valve off sooner, which will prevent water from flowing into the overflow tube. If the water level seems to be normal, the leak is most likely down at the bottom of the tank around the flush valve, the "flapper." Check the opening it sits on for debris or cracks, and clean both the valve seat and the flapper. If it still leaks, pick up a replacement flapper at your local hardware store and replace it.

Loose Front-door Hinges

If your front-door hinge screws just spin in place when you tighten them, here's a tip that'll save you buying a whole new frame. First, repair just one hinge at a time so you won't have to remove the door. Take out all the screws on the hinge to reveal bare wood, then use a hammer to tap as many glue-covered toothpicks into each screw hole as possible. When the glue dries, use a chisel or sharp utility knife to trim off the excess toothpicks. Then replace the hinge and reinstall the screws. Repeat with the next hinge. If the frame has split, try using longer screws, at least 3"-long wood screws to span the gap between the door frame and house frame. You'll have a door that's good as new.

THE FAMILY Handyman

#1 in DIY Home Improvement since 1951

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HOME CARE & REPAIR

by Jeff Gorton
editors@thefamilyhandyman.com



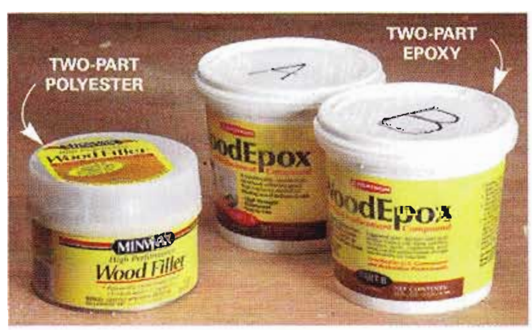
Art Direction MARCIA ROEPKE • Photography BILL ZUEHLKE, RAMON MORENO

Patch rotted wood

Do you have rotted wood? It's usually better to simply tear out the old board or molding and replace it than to repair it. But for windowsills and door jambs that are hard to remove and molding that would be tough to duplicate, patching with wood filler makes sense.

Fillers for repair of rotted wood generally fall into three categories. For small holes and cracks, there are fillers like DAP Latex Wood Filler or MH Ready Patch that harden as the water or solvent evaporates. Other fillers, such as Durham's Rock Hard Water Putty, harden by a chemical reaction when water is mixed in. Finally, two-part fillers like Minwax High Performance Wood Filler (polyester) and Abatron's WoodEpox (epoxy) harden after you mix the two parts.

Two-part fillers are the most durable, and the best choice for long-lasting repairs. Although polyester and epoxy are both two-part fillers, they have unique characteristics that make them quite different to work with. We'll



Epoxy and polyester fillers are two-part formulas that harden after you mix the parts. They're both excellent fillers, though with slightly different characteristics.



1 Gouge out rotted wood with a chisel, screwdriver or other pointy tool.



2 Mix two-part epoxy consolidant in a squeeze bottle. Squirt it into the holes and repair area. Use a disposable brush to spread the consolidant and work it into the wood fibers.

show you the differences and give you some tips for working with these two excellent wood repair fillers.

Use epoxy for a premium repair

One common brand of epoxy wood filler is Abatron WoodEpox (abatron.com; 800-445-1754). A kit containing pints of LiquidEpoxy consolidant parts A and B and WoodEpox parts A and B costs $76. Unlike polyester filler, epoxy wood filler has a dough-like consistency, so it will stay put even on vertical repairs.

Prepare for an epoxy repair by removing as much rotted wood as possible. Use an old screwdriver, chisel or 5-in-1 painter's tool to gouge out the damaged wood (**Photo 1**). If the wood is wet, cover it loosely with a poly tent and let it dry completely before starting the repair. Drill a series of 1/4-in. holes around the rotted area if you suspect rotted wood below the surface, but don't drill all the way through. You'll fill these with consolidant to solidify the wood around the repair.

Start the repair by soaking the damaged area with epoxy consolidant (**Photo 2**). Mix the consolidant according to the

Tips for working with epoxy:

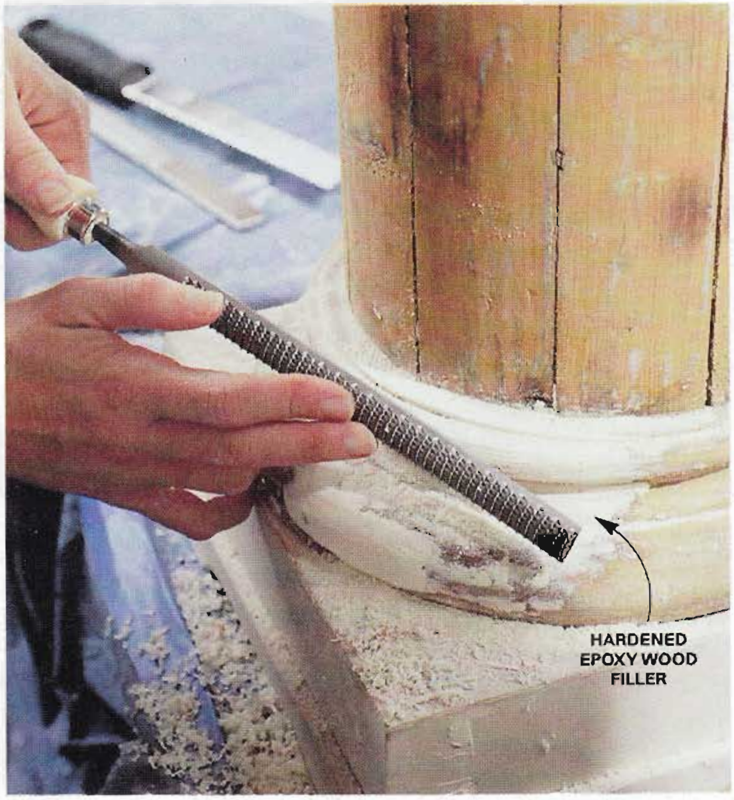
- Label the caps "A" and "B" and don't mix them up.
- Start with a clean container or mixing board each time you mix a new batch.
- Save epoxy by filling most of the cavity with a scrap of wood. Glue it in with epoxy filler.
- Carve the epoxy before it becomes rock hard.



3 Mix the two-part epoxy wood filler on a smooth board according to the manufacturer's directions.



4 Press the epoxy filler into the repair. Leave enough protruding so you can shape the repair after it starts to harden.



5 Rough out the shape with a rasp. Mix another batch of epoxy filler and add another layer if necessary. Fine-tune the repair with sandpaper, then prime and paint.

directions. Wear rubber gloves and safety glasses when you're working with epoxy. You can mix the consolidant in a squirt bottle or a small plastic container. Use a disposable brush to work the epoxy consolidant into the wood fibers. Epoxy is difficult to remove after it hardens, so clean up drips and runs right away with paper towels. You don't have to wait for the consolidant to harden before applying the epoxy filler.

Next, mix the two-part epoxy filler on a mixing board (**Photo 3**). Then apply it with a putty knife or simply press it into place with your fingers (**Photo 4**). Roughly shape the epoxy, making sure it protrudes beyond the final profile. When the temperature is 70 degrees F, you'll have about 30 minutes before the epoxy starts to harden. Increase the working time by spreading the epoxy in a thin layer on your mixing board and keeping it cool. On a warm day, the epoxy will harden enough in three or four hours to start shaping it with a Surform plane, rasp and sandpaper (**Photo 5**). After rough-shaping with a plane or rasp, sand the filler with 80-grit and then 120-grit sandpaper. If you sand off too much (or didn't add enough epoxy to begin with), dust off the repair and add another layer. You can make a more spreadable filler by mixing a small batch of consolidant and a small batch of filler and then adding some of the consolidant to the filler to reach the desired consistency.

Polyester is readily available and less expensive

If you've done any auto body repair, you've probably worked with two-part polyester filler. Minwax High Performance Wood Filler is one brand formulated for wood repair, but a gallon container of Bondo or some other brand of two-part auto body polyester will also work and may be less expensive for larger fixes.

The process for repairing wood is much the same whether you're using polyester filler or epoxy. Instead of epoxy consolidant, you'll use High Performance Wood Hardener to solidify and strengthen the wood fibers (**Photo 1**). Polyester begins hardening faster than Abatron WoodEpox. Depending on the temperature, you'll have about 10 to 15 minutes to work before the filler starts to harden.

Also, unlike WoodEpox, polyester tends to sag when you're doing vertical repairs. One trick is to build a form and line it with plastic sheeting. Press the form against the filler and attach it with screws. Then pull it off after the filler hardens. Or you can wait until the sagging filler reaches the hardness of soap and carve it off with a putty knife or chisel or shape it with a Surform plane or rasp (**Photo 2**). Most medium to large repairs will require at least two layers of filler. Complete the repair by sanding and priming the filled area and then painting.



1 Remove rotted wood with a 5-in-1 or other sharp tool. Then coat the area with wood hardener as shown. Mix polyester wood filler and press it into the recess with a putty knife.



2 Carve the partially hardened sagging wood filler with a putty knife or chisel. Add another layer of filler if necessary.

DO'S & DON'TS

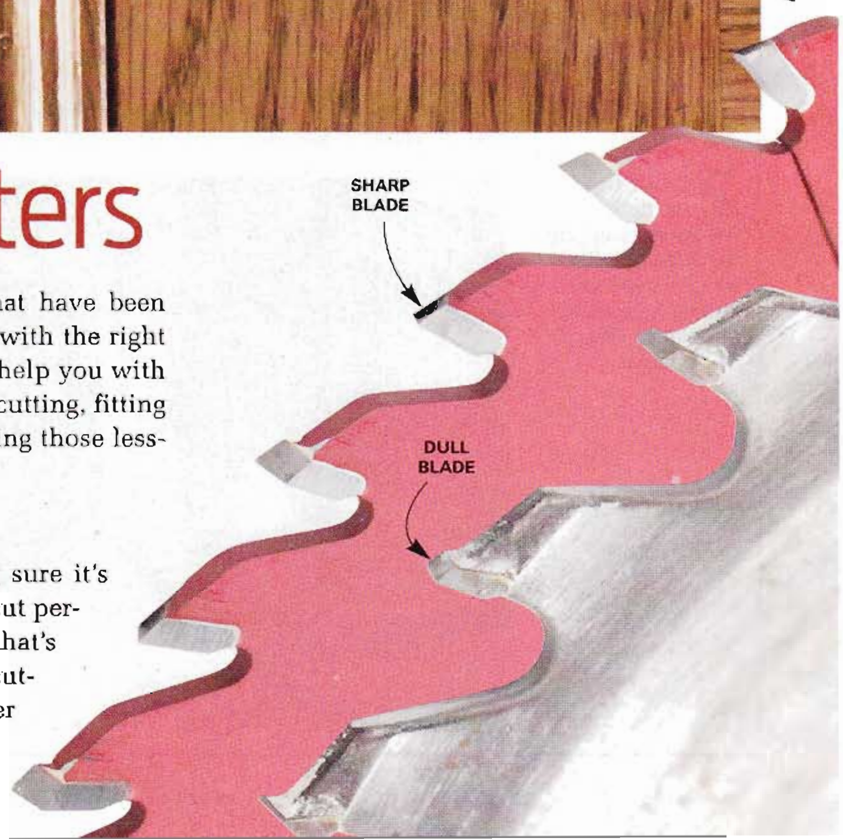
by Jeff Gorton
editors@thefamilyhandyman.com



Art Direction MARCIA ROEPKE · Photography TOM FENENGA

Tips for tight miters

There are perfect miters—and then there are miters that have been tweaked to look perfect. You can learn how to do both with the right tools, a few pro tips and a good dose of patience. We can't help you with the patience, but we can show you tips and techniques for cutting, fitting and joining perfect miters, along with a few tricks for making those less-than-perfect miters look their best.



Make sure your blade is sharp

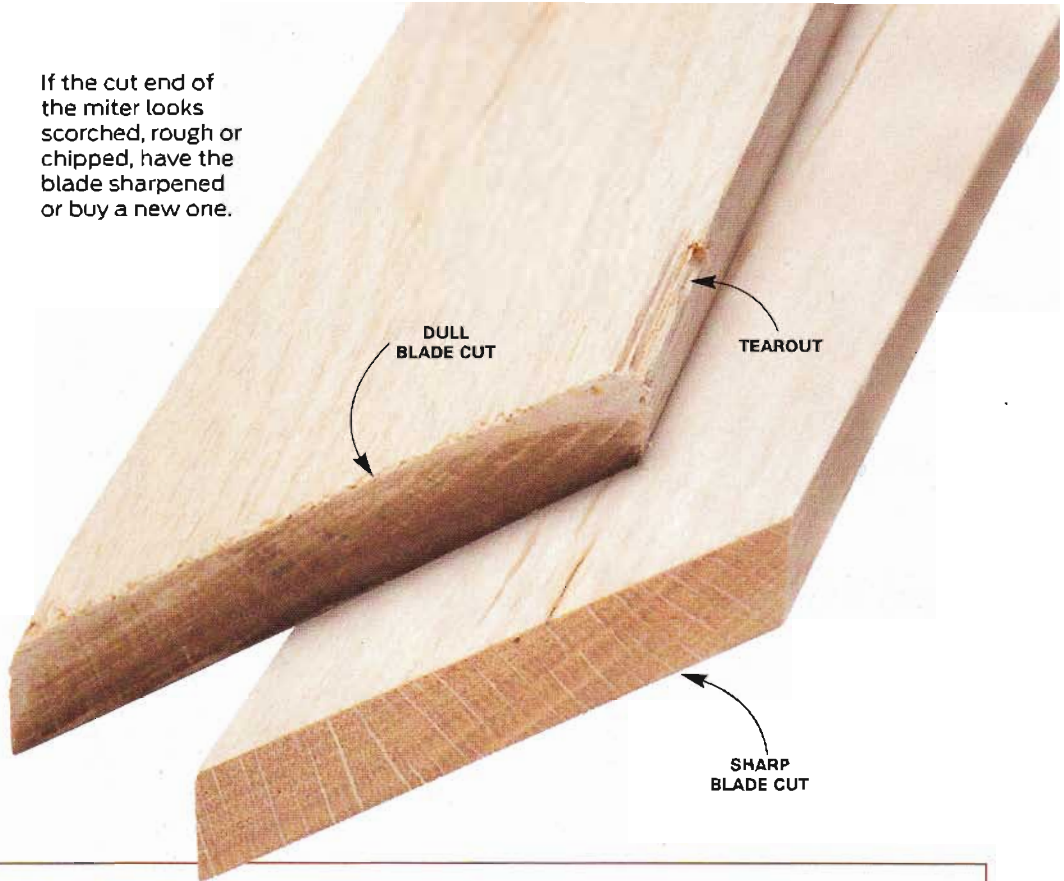
Choosing the right blade for your miter saw, and making sure it's sharp, are crucial for cutting tight-fitting miters. You can't cut perfect miters with a dull blade, one with too few teeth or one that's designed for ripping. Check your blade for sharpness by cutting a 45-degree miter on a 1x3 or larger piece of oak or other hardwood (**top photo**, p. 14). If the blade cuts smoothly with

very little pressure and leaves a clean, almost shiny cut with no burn marks, it's sharp enough to cut good miters.

When you check your blade or shop for a new one, here's what to look for. First, it should be labeled as a "trim" or "fine crosscutting" blade. A 10-in. blade should have at least 40 teeth, a 12-in. blade at least 60. If the blade is for a sliding miter saw, be sure the teeth have a hook angle of zero to negative five degrees. Teeth with a neutral or negative hook angle are less aggressive and safer for sliding miter saws. Expect to spend at least $50 for a carbide-tipped blade that'll perform well and last.

We want your feedback!
Help us improve *The Family Handyman* by sharing your opinion of this and other articles. See p. 2 for details.

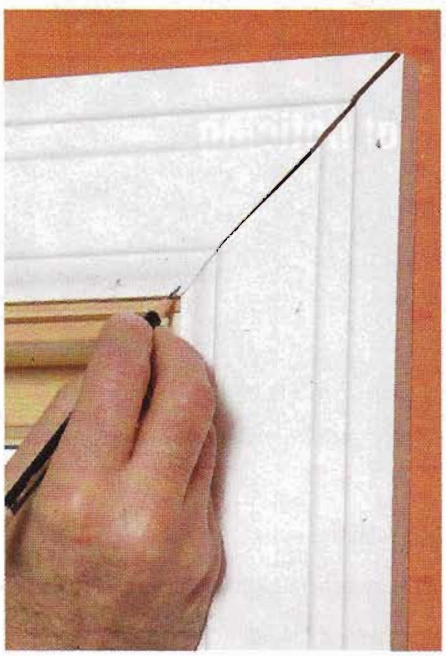
If the cut end of the miter looks scorched, rough or chipped, have the blade sharpened or buy a new one.



Tweak the cut

Even on perfectly square corners, 45-degree angles won't always yield perfect miters. Wall corners can be built up with corner bead and compound, and window and door frames can slightly protrude or be recessed behind surrounding drywall. That's when you have to start fiddling with the angles to get a tight fit.

In most cases, you'll be making adjustments as small as a quarter of a degree. If the gap is small (about 1/16 in.), recut one side of the miter (**Photo 2**). If the gap is larger, you'll have to recut both boards or the trim profiles won't line up. For more tips, go to thefamilyhandyman.com and type "tight miters" into the search box.



1 Cut the moldings at a 45-degree angle. Hold the miter together to see how it fits. If there's a gap, estimate how much you'll have to trim off to close the gap, and make a mark where the moldings touch.

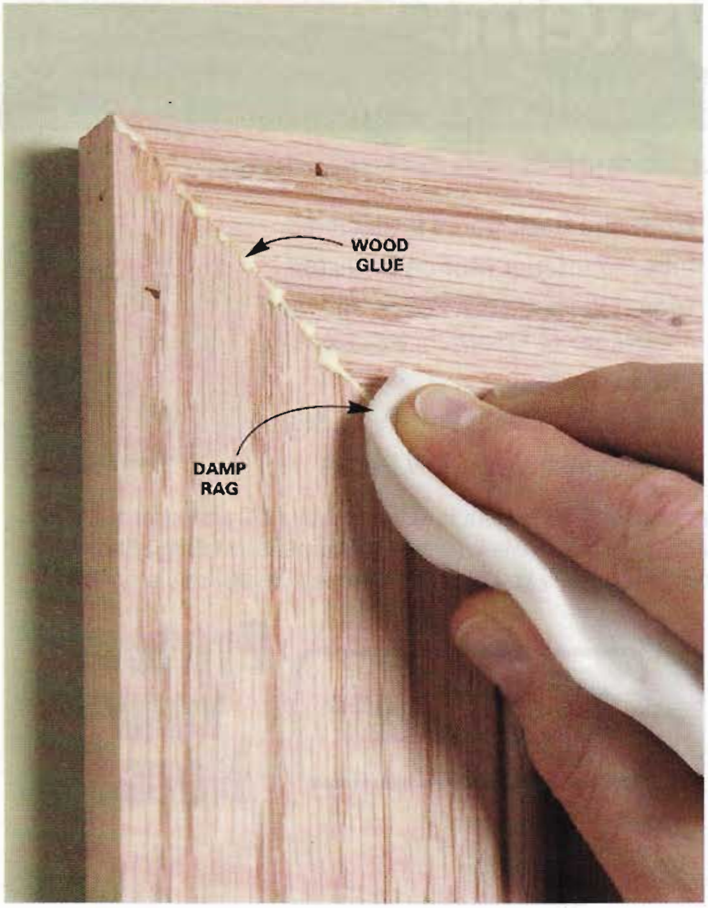


2 Push the trim tight to the blade and adjust the angle of the saw until the gap equals the amount you need to trim off the miter.

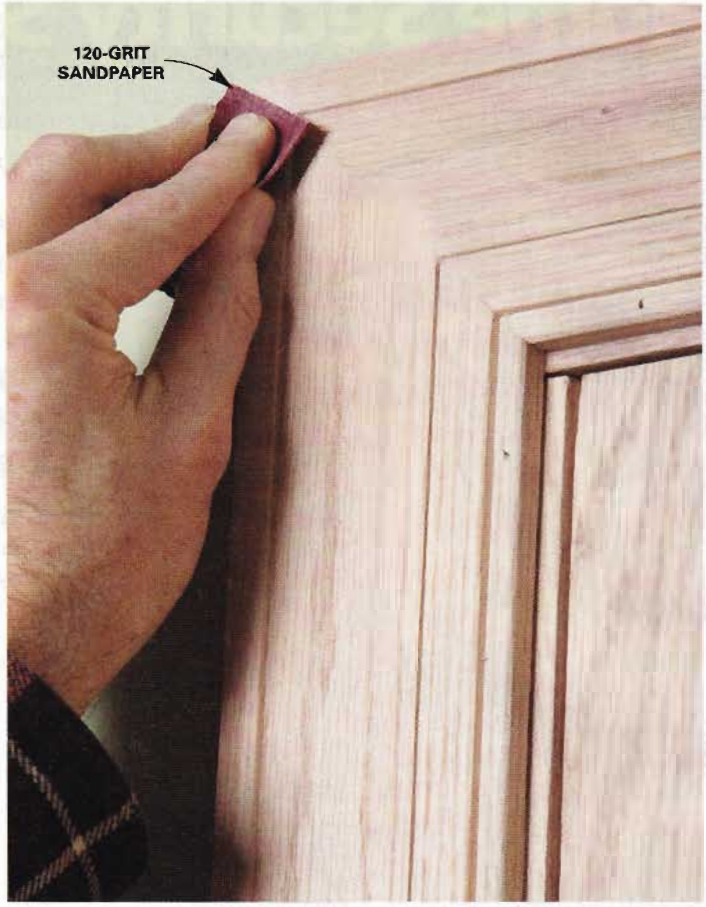
Glue and sand for a seamless fit

Here's a trick to make miters look great, but it only works if you're installing raw trim that will get finished after installation. It's easy. Glue the joint, then sand it smooth.

The sawdust from sanding will mix with the glue to fill any small gaps. Sanding the miter will also even out any slight level differences and make the job look more professional. Don't try to fill large gaps, especially in trim that'll be stained. Glue-filled gaps absorb stain differently than the surrounding wood and will stick out like a sore thumb.



1 Apply a thin layer of wood glue to the end grain of each piece before you assemble them. Use a damp (not wet) cloth to remove excess glue from the joint.

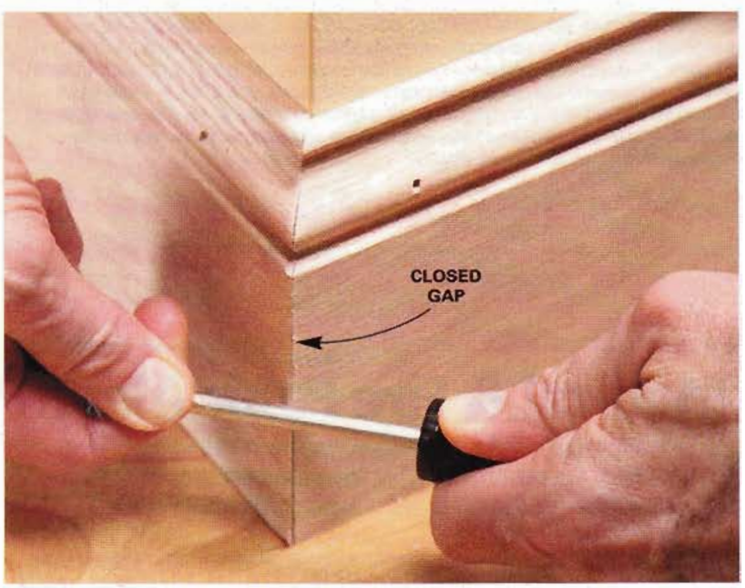


2 Sand over the miter with a small piece of 120-grit sandpaper. Sand across the joint and finish up by carefully sanding out any cross-grain sanding marks by moving the paper with the grain from both directions.

Burnish the corner

You can make less-than-perfect miters on outside corners look their best with this tip. If your baseboard or crown molding has a slight gap in the outside corner miter, you can hide it by rubbing the tip of the miter with the shank of a screwdriver or nail set. The bent fibers will disguise the gap, and the slightly rounded corner will be less likely to get chipped or damaged.

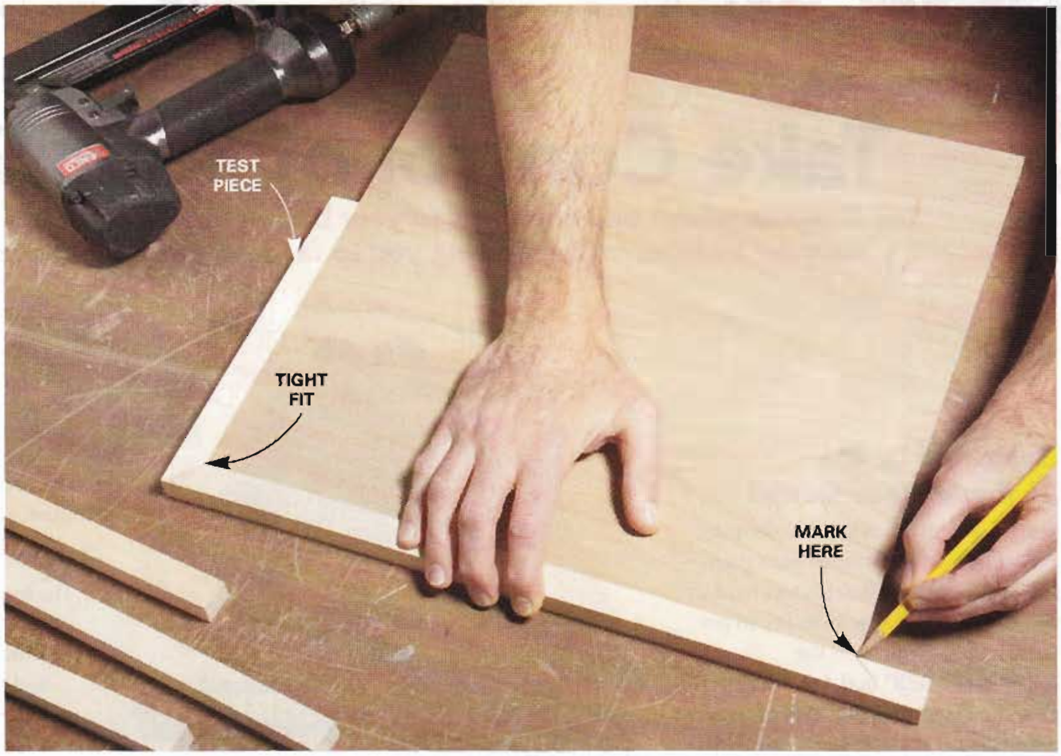
The best way to prevent this problem is to cut your outside corner miters about 1 degree sharper than the actual angle so the tips of the miters touch. This will leave a tiny gap at the back of the miter where it's barely noticeable.



Hide a slight gap in an outside corner miter by rubbing it with the shank of a screwdriver or nail set. This will bend the wood fibers in and slightly round the corner.

Fit one miter at a time

Whether you're edge-banding a tabletop as we're showing here, trimming out a window or door, or installing baseboard, it's always best to fit one miter at a time whenever possible. Start with a scrap of molding with a miter cut on it as a test piece (**Photo 1**). When you have the first miter fitting perfectly, mark the next one (**Photo 2**). Then cut and fit the adjoining miter before you nail either piece. For edge banding, work your way around the project using the same process for each edge piece.



Tack a mitered scrap of edging to one side. Use it to hold the first edging piece in position. Hold the mitered end tight to the mitered scrap while you mark for the opposite miter.



Cut test pieces to check the angle of the miter.

Guess and test

There are all kinds of ways to find odd angles, but most carpenters simply make a guess and then cut a pair of test pieces to see how lucky they are. The angle of these two walls looks to be less than 45 degrees. A good guess would be about 30 degrees. Divide 30 by two to arrive at the miter angle, and cut a couple of scraps at 15 degrees. Here there's a gap in front, so we need to increase the angle slightly and recut the scraps at 16 degrees. When you've zeroed in on the correct angle, the scraps will fit perfectly, and you can then cut the actual moldings.

by Brett Martin
editors@thefamilyhandyman.com



Art Direction ROBERTA PETERS • Photography TOM FENENGA

Pristine finish with a DIY spray gun

Most pro painters spray-paint doors because it leaves a flawless finish, without any brush or roller marks. But pro-grade spray guns can be tricky to use and expensive to rent or buy. Now there's a model for DIYers—Wagner's Control Spray Double Duty spray gun. This is the sprayer we used to paint cabinet doors in our Dec./Jan. '10 issue (a lot of you have been asking!).

Bill Nunn, one of our painting consultants, was skeptical that this low-priced HVLP (high-volume, low-pressure) sprayer would produce a professional-looking finish—and he was impressed when it did. It doesn't deliver the same high volume of paint as his commercial sprayer, but that's a good thing. It sprays at a rate that's manageable for DIYers, so the disaster/success ratio is severely minimized. Bill was also impressed with the $70 price tag.

The spray gun features quick-disconnect parts for fast setup and cleanup. The gun is available at home centers.

Wagner, (800) 328-8251, wagnerspraytech.com



The spray gun twists apart to simplify cleaning.

Make paint more user-friendly



Fewer and fewer pros use paint right out of a can. They mix in a paint extender or paint conditioner to slow down the paint's drying time (which helps eliminate lap marks) and to level out the paint (which helps eliminate runs). One of the newest to hit the market is Benjamin Moore's Extender ($16 per qt.), which can be used with any latex paint. You stir in 8 oz. of extender per gallon of paint to make the paint easier to brush, roll or spray—and to get better results. We've been using the extender here in our photo studio and have found that getting a smooth finish is a whole lot easier. Find retailers on the Web site below.

Benjamin Moore. benjaminmoore.com

Tile flypaper



Bondera's new TileMatSet offers an alternative to the traditional method of mixing and troweling adhesive on walls, then setting tile. With TileMatSet, you peel off the protective backing to adhere the mat to the wall, then peel off the protective front to adhere tile to the mat. The tiles stick to the mat—no other adhesive is required—then you can grout the same day. You get the instant satisfaction of finishing a tile job in a day or less.

TileMatSet is super sticky, but you can still adjust the tiles after you set them into place. Our set builder used the mat for tiling a frame around his mirror—he didn't have to worry about getting adhesive on the glass.

The company says you can use the mat in showers, too, but it gets expensive to use in large areas. A roll of the 12-in.-wide by 10-ft.-long tile mat for walls (No. 2754) costs $39, and a 16-in.-wide roll for countertops (No. 4330) costs $32. You can buy the mats at lowes.com and some Lowe's stores.

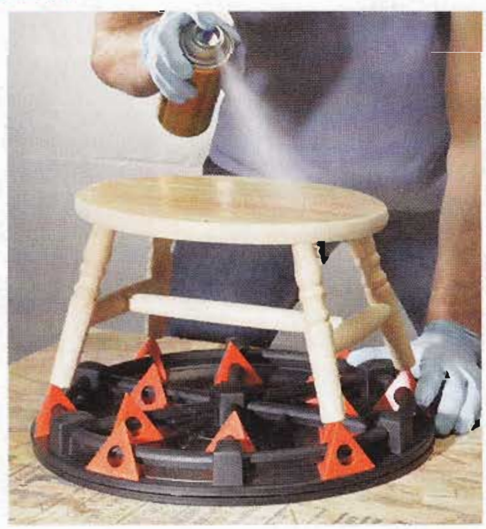
Bondera, (888) 862-8738. bonderatilematset.com

Turntable makes finishing easier

The Finishing Turntable may look like a medieval torture device, but it's actually a lazy Susan that speeds up finishing. Slide the 12 pyramids to support your workpiece. Then rotate the turntable as you apply the finish so you won't have to move around or touch the workpiece while it's wet.

You can paint or stain a door and then flip it over while it's wet and finish the other side. The 16-in.-diameter turntable holds up to 100 lbs. Available on the Web site below for $50 and at Rockler and Woodcraft stores.

K & M of VA, (804) 426-4366. finishingturntable.com







Technologically advanced paint

Painting consultant Bill Nunn is a huge fan of Benjamin Moore's Aura paint. He likes the way it'll cover any wall in two coats (or sometimes even one) without a primer, and he says it provides a rich looking, durable finish.

That's because the paint uses Color Lock technology, which microscopically bonds the color pigments to the dry paint film to lock in the color and keep it from fading. The pigments in other paints don't bond to the film, so the color can rub off.

Color Lock also ensures that the paint keeps its true color if you ever need to wash marks or stains off the wall. The drawbacks are that the paint dries quickly (so mix in a paint extender), and at $60 per gallon, it's more than twice the price of other paints. You can buy it at Benjamin Moore stores.

Benjamin Moore. benjaminmoore.com

Five-arm outlet

Most power strips cram the outlets so close together that you often can't use all of them if you have bulky plugs, like the ones on cell phone chargers. But Power Sentry's Power Squid doesn't have that problem. Its five outlets are attached to flexible "arms" that move independently so the plugs never crowd one another. The Power Squid is perfect for home theaters, computer workstations and especially rugged environments like job sites where you're running multiple power-hungry tools. The 14-3 gauge cables provide plenty of the room and amperage that those beasts need to run. But don't use it full time in a damp environment, like running power to your water garden.



The Power Squid is available with surge protection ($21) or without ($13). You can buy both versions at amazon.com.

Power Sentry. (800) 233-8413. powersentry.com

Sand faster without gouging the wall



The Radius 360 from Full Circle speeds up one of the most unpleasant jobs in new construction and remodeling—sanding freshly taped drywall. The 9-in.-diameter sanding head is larger than rectangular sanders to cover more area with each pass. The company says sanding with the Radius 360 is up to three times faster than with other pole sanders. Even though the Radius 360 easily swivels on the handle, its round shape keeps it from flipping over and gouging the wall—a common problem with other pole sanders.



At $45 plus $8 for a five-pack of hook-and-loop sandpaper discs, it's not a tool for small sanding jobs. But if you're taping new drywall or want to sand walls in rooms before you paint, it's a real time-saver. The sander is available at Sherwin-Williams stores (find other retailers on the company's Web site).

Full Circle, (866) 675-2401, fullcircleinternational.com

Easy-clean paintbrush



Low-VOC paints tend to dry quickly—some say too quickly—because solvents have been removed to eliminate potentially harmful vapors. And that fast-drying paint can be hard to clean off paintbrushes. To solve that problem, Corona Brushes developed a line of paintbrushes with special synthetic bristles, called Chinex, that are designed to be easy to clean.

We put the Corona Excalibur Chinex brush in a head-to-head test with another synthetic brush. We plunged them both in paint up to the ferrule, then let them sit in 2 in. of paint for 15 minutes. Then we cleaned them. Most of the paint ran off the Chinex bristles right away, and within three minutes, the brush was almost totally clean. The paint even came off the wooden handle. The other brush didn't get as clean, even though we spent seven minutes cleaning it and also used soap.

I bought the Excalibur for $18 at a local paint store. You can find retailers on the company's Web site.

Corona Brushes, (800) 458-3483, coronabrushes.com

Got a favorite painting tool?

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Paint a room in half the time!

Get a flawless finish—fast

Painting fast would seem to be at odds with getting great results, but that's how painting contractors make their living. You, too, can paint faster without sacrificing quality by using the tips shown here. Some of these methods are contrary to the painting advice you've been hearing for years, but they work—they'll save you time and leave you with a professional-looking finish.

by Brett Martin
editors@thefamilyhandyman.com



Art Direction MARCIA ROEPKE • Photography TOM FENENGA • Consultant BILL NUNN

For this story, we worked with painting expert Bill Nunn. Bill is a veteran painter and the president of William Nunn Painting. The tricks and techniques he shows here come from 32 years of experience painting hundreds of homes and apartments. Besides being a super-efficient painter, Bill leaves a flawless finish on woodwork, walls and ceilings.

clean fast with TSP

You have to start with a clean surface for paint to adhere to previously painted walls and woodwork. Use a sponge and a trisodium phosphate cleaner (or TSP substitute) to quickly wash off dirt, grime and soot. TSP cleans fast and usually doesn't require a lot of scrubbing. Buy TSP concentrate and mix it with water—it's a better value than liquid TSP. A 16-oz. box costs $5 at home centers.

Use TSP on all of your woodwork. It slightly etches the paint, which helps the paint form a better bond. And use it in kitchens to clean grease from walls, in bathrooms to remove hairspray and around light switches to remove fingerprints. Wear rubber gloves and turn up the cuffs to keep the TSP solution from running down your arm.





strain the goobers out of paint

Even if you open your paint right after bringing it home from the paint store, you can still have small chunks or strands of hard paint in it. If those end up on the wall, you'll have to pick them out and reroll the area. So spend two minutes straining out the goobers.

Buy a paint strainer ($2) at a home center or paint store or use old pantyhose to strain the paint. Place the strainer over a 5-gallon bucket, then pour the paint through the strainer. The strainer catches any debris in the paint. If you really want to be dollar savvy, rinse out the strainer in the sink and reuse it.

DIY Success Story

Painting without taping

I hate dealing with tape when I paint. I used to spend hours taping off my trim, only to have the tape peel off before I started slinging the paint. Now I just apply tape to the baseboards right before I paint, and that's it. Not taping the trim saves me a lot of time and frustration.

— Paul Squires

Got a painting tip?
Send us your favorite tip for painting faster. We'll give you $100 if we publish it. Send photos, too! E-mail them to mystory@thefamilyhandyman.com.

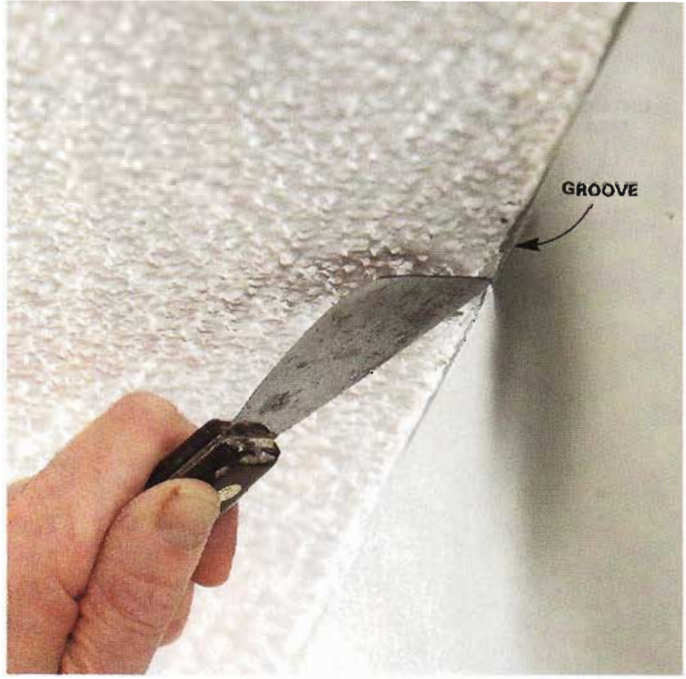
a faster way to paint sashes

Most DIYers slop paint onto the glass when painting windows, then scrape it off with a razor. But if you're good with a paintbrush, you can cut in along the glass. You won't have to scrape, and better yet, you'll leave the paint seal intact between the wood and the glass.

Load your brush and lay off the paint on the sash, staying about 1/2 in. from the glass. As soon as the brush is about half unloaded, go back and cut in closely. Let the brush bristles just barely touch the glass so the paint seals the tiny gap between the wood and the glass. If paint does drip on the window, scrape it off with a razor after it dries.



paint **fast** along textured ceilings



It's almost impossible to paint right next to rough-textured ceilings (a process called "cutting in") without getting paint on the ceiling. Taping off the ceiling doesn't work either. The solution? Knock off the texture at the edge with a putty knife. Hold the knife at a 45-degree angle to the wall and run the blade along the edge of the ceiling. The blade scrapes away the texture and leaves a small groove in the ceiling. Clean out the groove with a duster or a dry paintbrush.

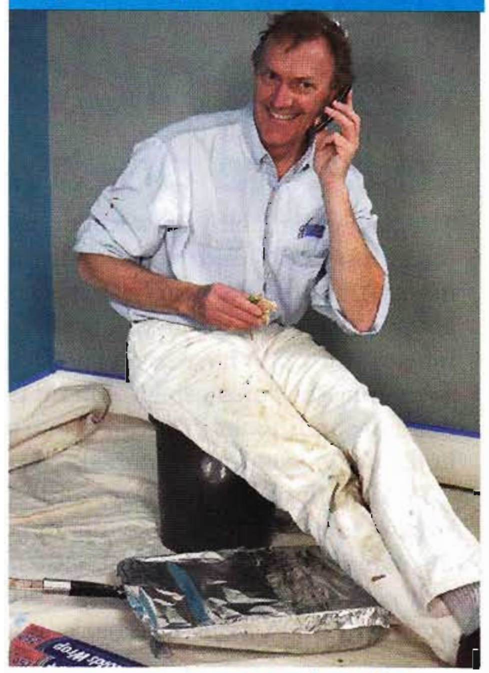
Now when you cut in along the top of the wall, the paintbrush bristles will slide into the groove, giving you a crisp paint line without getting paint on the ceiling. And you'll never notice the thin line of missing texture.

"I use a roller tray instead of a roller screen in a bucket. There's less mess from drips, and you have more control over how much paint you load on the roller. Plus, it's easy to move your tray with your foot—try doing that with a 5-gallon bucket of paint!"

— Bill Nunn

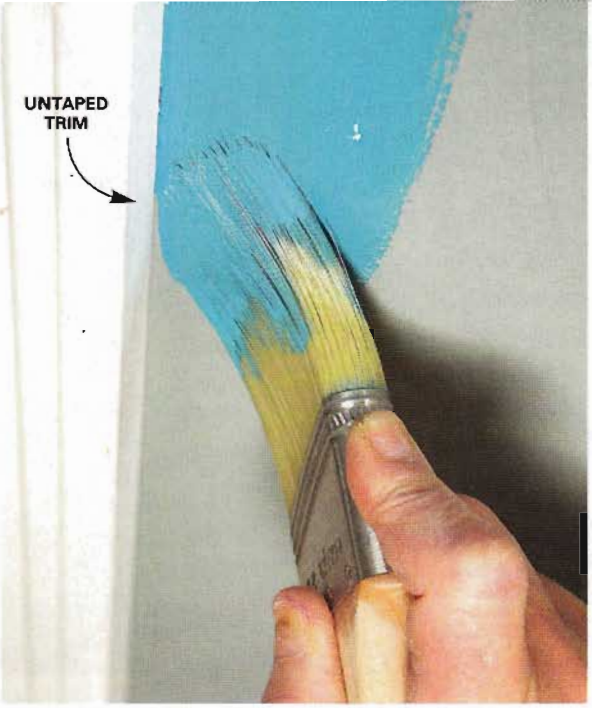


paint pro Bill Nunn



cover paint to keep it **fresh**

Paint dries fast, even paint in your roller tray. If you need to take a break for more than 10 minutes, cover the paint. Place a lid on your 5-gallon bucket of paint and a damp cloth over your handheld paint container. Use aluminum foil to cover your roller tray. If you don't, the film that forms on top of the paint may end up on your walls.



cut in quickly with a steady hand

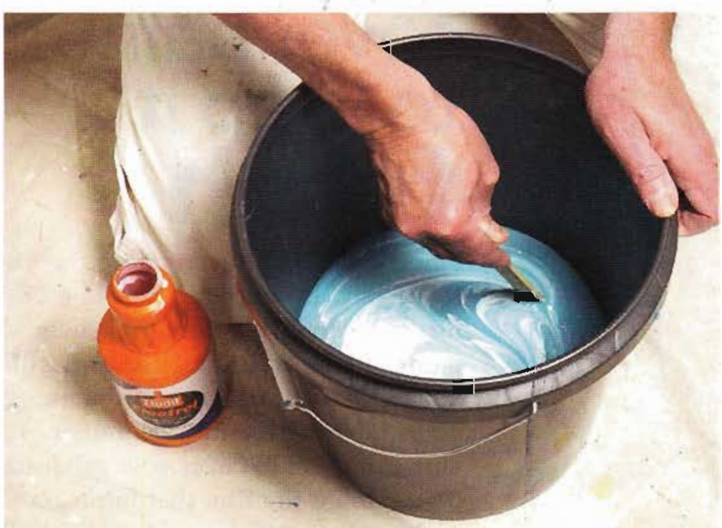
Cutting in along trim that's not protected by masking tape takes a steady hand. And once you get the knack for it, you'll never want to fuss with taping trim again. Sure, cutting in can be hard for some DIYers, but you can learn to do it effectively.

Use a tapered paintbrush. The angled bristles uniformly unload the paint as you cut in. Dip the brush into the paint, then tap (don't wipe) each side against your container to knock off the excess. Brush the paint on the wall, about 1/2 in. from the trim. Then make a second pass, cutting in all the way to the trim. Avoid "pushing" the paint with your bristles or you'll leave a ridge where you're cutting in. Apply just enough pressure to let the bristle ends glide next to the trim. To help keep the brush steady, move your entire arm as you paint instead of moving your arm only from the elbow down.

use extenders to avoid do-overs

The longer that paint stays wet on walls or woodwork, the fewer lap marks and runs you'll have to deal with. Lap marks are those dark, ugly lines caused by painting over an area that's already dry. If you can keep the paint wet longer, you won't have to worry about them. And the way to prolong the "open time" of paint is to add a paint extender or a conditioner (Floetrol is one brand; $6.50 per qt. at home centers and paint stores).

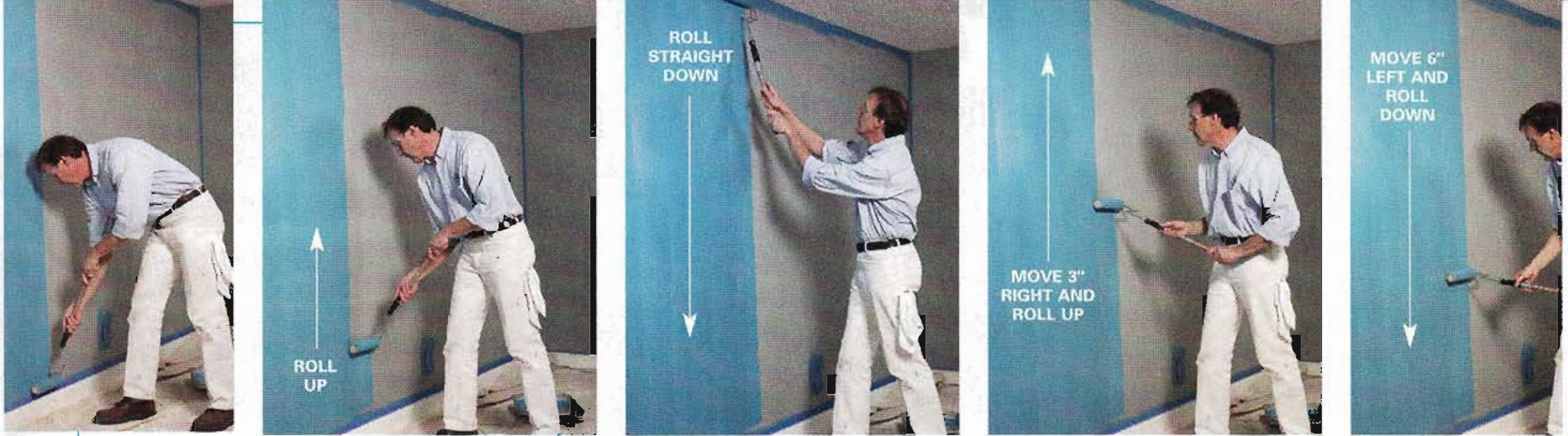
Pour all the paint you need for the room into a 5-gallon bucket, then stir in the extender or conditioner (following the manufacturer's recommendations). Because extenders and conditioners help level out brush marks and paint runs, you won't have to go back and fix them later.



cut in one wall at a time

Once you have your paintbrush in hand, it's tempting to cut in along all the trim, the ceiling and the corners in the room. But you'll get better results if you cut in just one wall, then immediately roll out the wall before cutting in the next one. That's because if you roll out the wall right away, while the cut-in paint is still wet, the cut-in paint and the wall paint will blend much better, reducing the chance of lap marks.





fastest way to cover walls

Everyone who's painted has a personal technique for rolling walls. Bill honed his technique over three decades. It's methodical, which makes it fast and efficient. It also provides even coverage.

If you're right handed, paint the wall from left to right (it'll feel more natural when you're rolling). Load the roller sleeve with paint and roll from the baseboard to the ceiling to get the paint on the wall. Then roll straight back down (without reloading the roller) to ensure the wall is covered. Load the roller and move over about 3 in. to the right (the unpainted side of the wall) and roll the full height of the wall again to feather out the leading edge.

When you get to the top, move about 6 in. to the left (without reloading) and roll back down to smooth out any runs or lap marks. Then reload the roller, place it on the feathered edge and start the process over. As you paint, roll horizontally where you cut in along the baseboard and ceiling. Only roll about 3 ft. at a time so the paint will stay wet as you roll the walls.

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- To watch videos on how to prepare walls and rooms for painting, look under "how-to videos."
- For tips on fixing problem walls before painting, search for "prep walls."
- For tons more DIY painting advice, search for "painting."

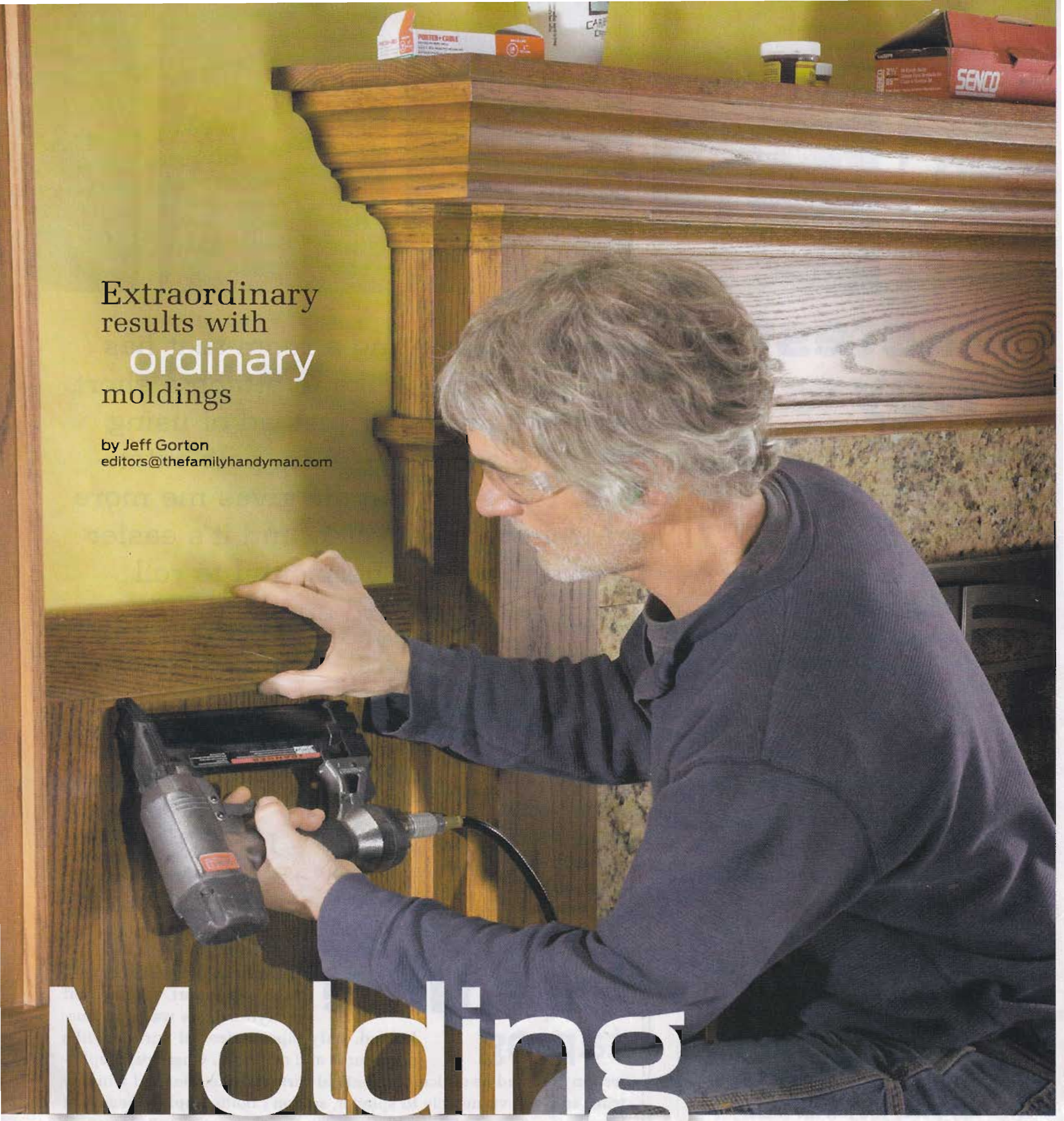
> "When I'm painting a room that has an 8-ft. ceiling, I like to attach a short handle to my roller instead of using the more common 48-in. pole extenders. The short handle gives me more control over the roller, and it's easier to turn the roller horizontal to roll along the baseboard and ceiling."
>
> — Bill Nunn



spend less time taping

Taping off all your trim with masking tape is time consuming and doesn't guarantee good results—paint can still bleed under the tape. In short, taping off everything is a waste of time. Instead, only tape horizontal surfaces, like baseboards and chair rail, where paint splatter can land and be noticeable. Vertical surfaces, like door and window trim, aren't as vulnerable to splatter, so don't bother taping them. Just be sure to cut in carefully with your paintbrush so you don't slop paint onto the trim (for help cutting in, see "Cut in Quickly With a Steady Hand" on p. 32).

"Tape creates its own set of problems, like coming off before you start painting and pulling paint off the wall when you remove it," Bill says. "But I learned the hard way that you still want to tape baseboards—paint will always splatter on baseboards if they're not taped."



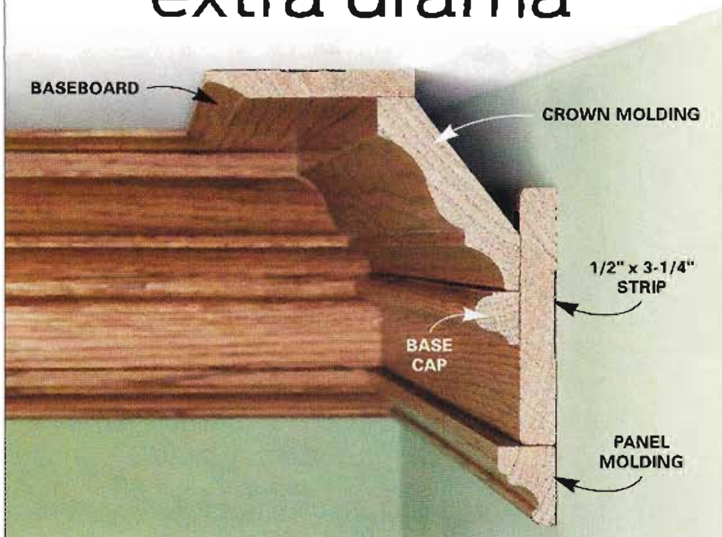
Extraordinary results with ordinary moldings

by Jeff Gorton
editors@thefamilyhandyman.com

Molding magic

I've installed miles of trim over the years, most of it in old houses, where I've encountered every conceivable shape, size and combination of molding. I've learned a lot in the process, but I'm still discovering new tools and techniques that make trim work faster, easier and better. Here are a few tips—some classic techniques and some with a modern twist—that'll help you do a better job on your next trim project.

Combine moldings for extra drama



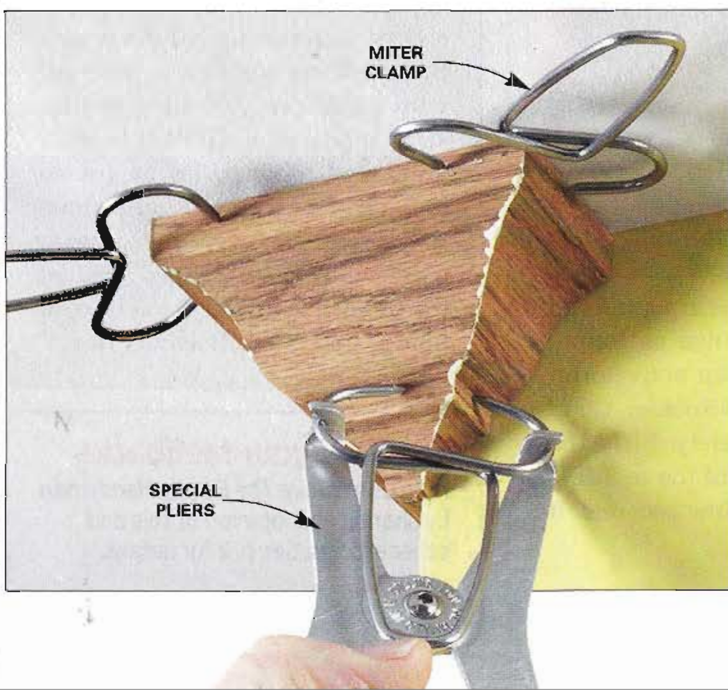
I love looking around old houses to see how moldings are combined to create baseboards, casings and cornices. I've even been surprised when removing old moldings to discover more layers than I originally noticed. The builders knew the advantages of combining small moldings. In addition to allowing endless possibilities for customization, smaller moldings are easier to cut and install than large moldings, and allow more flexibility on wavy or irregular walls. Plus, you can often achieve a great effect for less money by combining small moldings. I made the decorative ceiling cornice shown above using moldings I found at a home center.

The best way to plan molding combinations is to get your hands on some short lengths of molding and play around with them. Many full-service lumberyards have molding samples available. At home centers, you may have to purchase short lengths of each molding you're considering, or ask for scraps.

Inspect before you buy

Moldings can vary quite a bit in looks and quality, so it pays to examine them closely when you're picking them out. It's not as critical if you're installing trim that will be painted, but for stained moldings, there are several things to watch for. Make sure moldings that will be close to each other have a similar grain pattern and that the wood is about the same tone. Chatter from shaper blades is another common problem to pay attention to. Although you can't avoid chatter marks entirely, choosing moldings carefully can keep them to a minimum and significantly reduce your sanding time. Also watch out for "snipe," gouge cuts near the end of the molding that are caused by the molding machine. That 10-ft. stick of molding you need may not give you a full 10 ft. of usable molding.





Put the pinch on miter joints

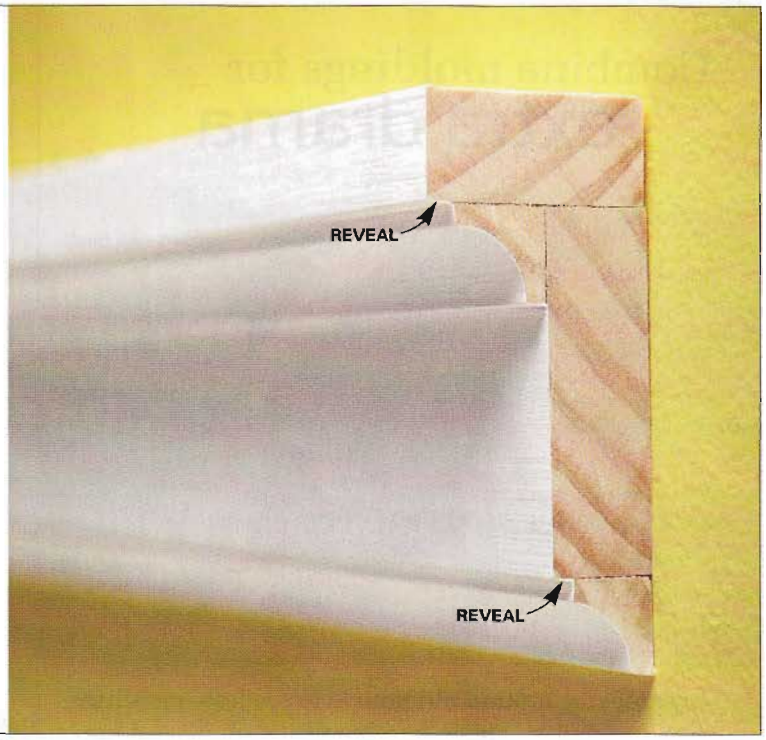
I recently ordered four miter clamps and a special pliers-type tool to install them and am amazed at how well they work. These handy little clamps are basically bent spring steel with sharp points that grab the moldings and squeeze them together. They're perfect for holding small pieces of mitered trim together while the glue dries and for clamping crown molding miters while you pin them together. They're also great for picture frame assembly. Our clamps are from Collins Tool Co. (collinstool.com; 888-838-8988; $29 for the four clamps and special pliers), but other brands are available. Search online for "miter clamps."

Art Direction BECKY PFLUGER · Photography TOM FENENGA · Technical Art JEFF GORTON · Consultant JOHN FROST, FROST CABINETS

Spice up
your project with reveals

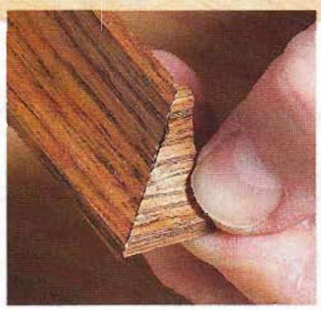
Like every other rule, this one has many exceptions. But in general, when I'm combining moldings, or adding moldings to plain boards, I offset the parts so that the edges aren't perfectly aligned. The exposed band of molding or board is called a "reveal." Creating reveals has two big advantages. First, it allows a bit of flexibility, since the two edges don't have to be perfectly aligned. Second, reveals look better in most situations.

The typical method of creating a reveal is to set back the edge of the molding from the edge of the board as shown here. However, an equally effective method is to allow the molding to protrude. Some reveals are set by tradition. Door and window casings, for example, are usually moved about 3/16 in. from the edge of the jamb. In other cases, you'll have to trust your eye to determine the right amount.





Attach small parts
with super glue



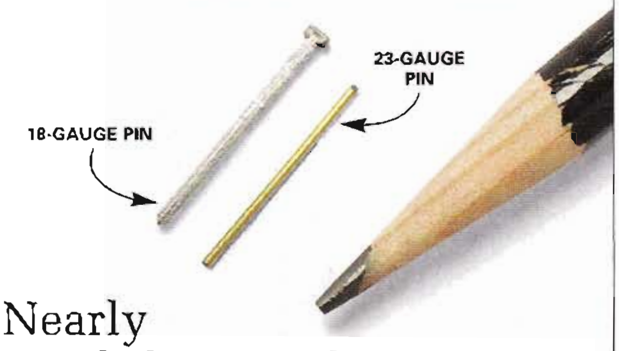
Mitered returns are tough to attach. They're usually too small to nail unless you have a micro pinner. I've tried attaching small parts with wood glue, but often the moisture from the glue causes the thinnest part of the trim to warp before the glue dries. Here's a tip I learned from a trim carpenter. Get some cyanoacrylate adhesive (CA) and activator, also known as "super glue." You may be able to find a kit of CA that contains an activator at home centers, but a sure source is a woodworking store like Rockler. Go to rockler.com and search for "super glue" to find a wide variety. I like the medium-body CA. Spread a thin layer of CA on one piece of the molding and activator on the other. Then just press and hold for a few seconds. It works like magic, forming a strong bond unbelievably fast.

thefamilyhandyman.com
For more information on molding installation, search for "trim carpentry."

No framing
—no problem

Once in a while, you may need to attach moldings where there's no framing behind the drywall to nail into. For example, if you're making frames on your wall out of moldings, it's likely that one of the vertical moldings won't have a stud behind it. The solution is to apply a thin bead of panel adhesive or construction adhesive and then tack the molding to the wall with a nail gun. For a better grip, shoot a pair of nails next to each other and at opposite angles so they form a wedge. If nails alone won't hold the molding, press it tight with 1x2s wedged against the opposite wall or the ceiling to hold it until the adhesive dries.

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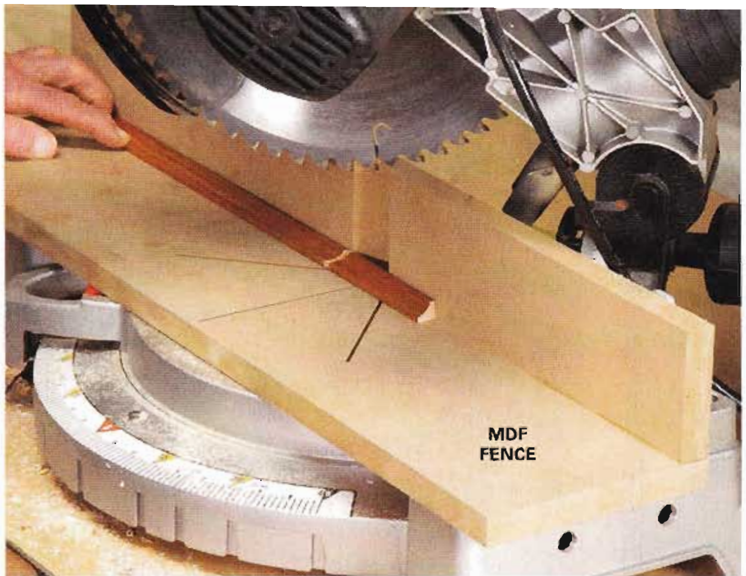


Nearly invisible nails

I was talking to John Frost, a local cabinetmaker, about how he installs moldings. After giving me a bunch of good tips, he said, "And of course you know about micro pinners." Actually, I didn't. John explained that a micro pinner is a finish nail gun that shoots super-thin 23-gauge pins. He uses a micro pinner because the small-diameter pins leave smaller holes that are almost invisible after you fill them. Plus, the tiny pins allow him to nail very small parts without splitting them as thicker pins might.

There are several brands of micro pinners ranging in cost from $120 to $330. The more expensive models drive pins up to 2 in. long. You'll find micro pinners at home centers and online.





Add an auxiliary fence

I asked a cabinetmaker friend if he ever adds a fence to his miter saw, and he said, "Absolutely, always." An auxiliary fence has several advantages. It reduces the gap under and behind the molding to only what's needed for the blade to fit through. The small gap helps prevent splintering on the back of the board and keeps small cutoffs from dropping through the fence and getting flung by the blade. You can also use the saw kerfs in the fence to help you line up your cut.

An auxiliary fence needs to be accurate but not fancy. I like to build fences from MDF because it's straight, stable and inexpensive. Another good choice is 3/4-in. plywood. Make the back of the fence as tall as possible without letting it interfere with the motor housing or blade guard. If you need several short pieces cut to the same length, make the fence long enough so you can attach a stop. Be sure the bottom and back are exactly perpendicular and that you don't put fasteners where the blade will cut. If you own a plate joiner, use glue and biscuits to join the back and bottom—no need to worry about hitting fasteners. Attach the auxiliary fence with screws through your miter saw fence.

DIY Success Story

I built a new mantel and surround for the fireplace in my den. I decided to combine a number of different design ideas and customize it exactly as I wanted it. I used marble tile, various size pine boards and several types of molding, all from my local home center. The total cost was less than $500. FYI, I'm not a professional woodworker or builder.

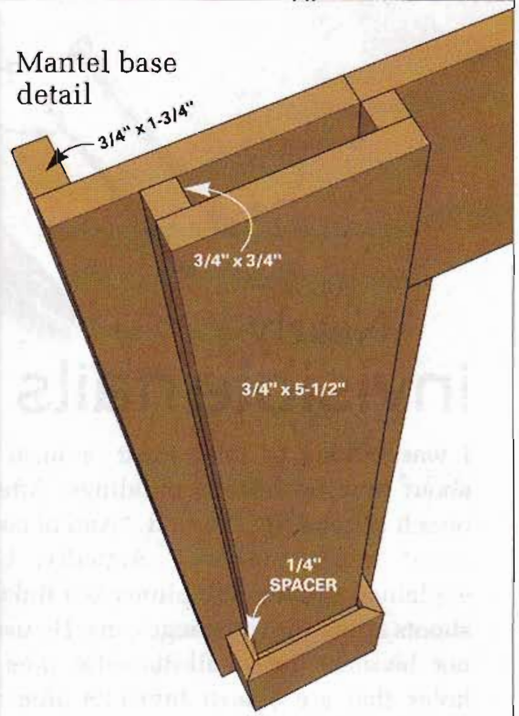
Allan Shaw

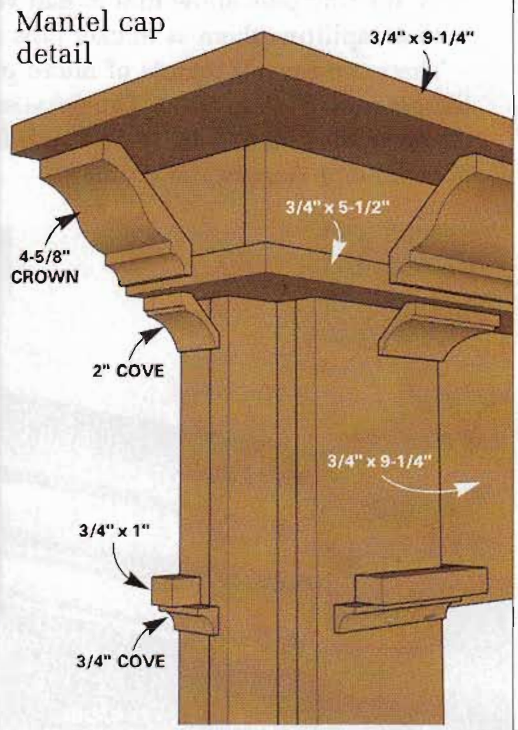


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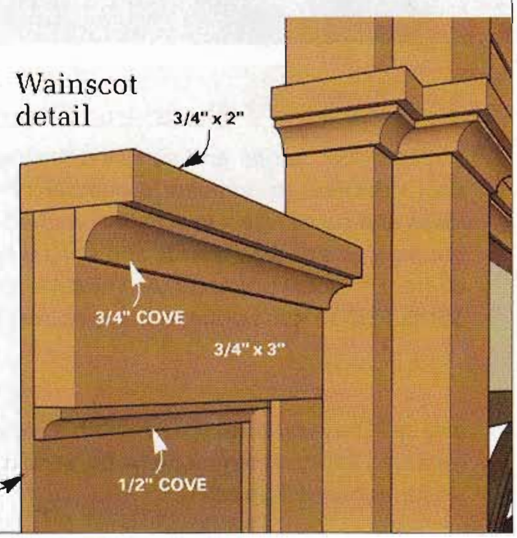


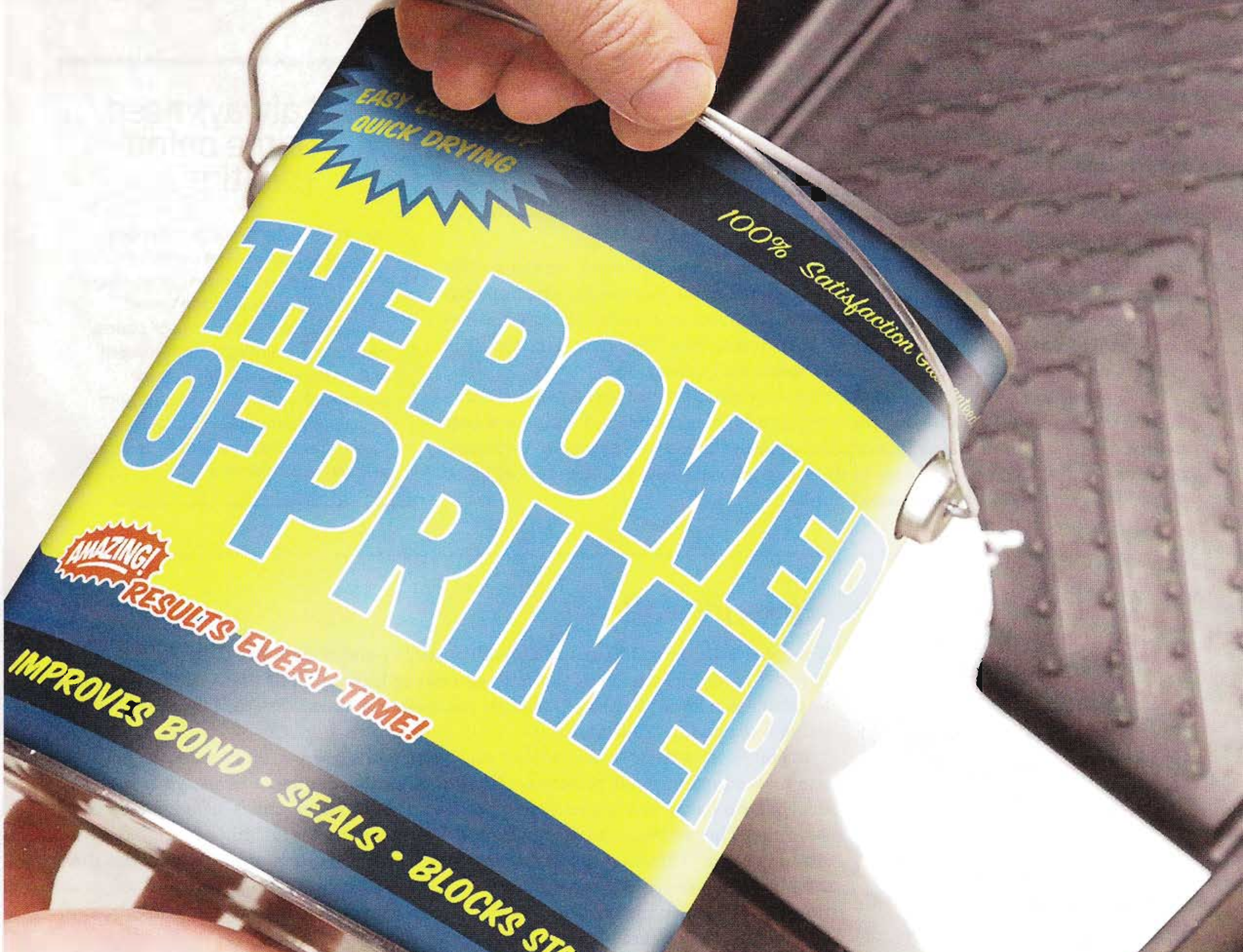


Fireplace mantel and wainscot design with SketchUp

For this article, I worked on SketchUp, a drawing program from Google, to design a fireplace mantel and simple wainscot and window trim. I used moldings that I found at a home center and a local full-service lumberyard. The SketchUp model and some of the building details are shown here. I've been dabbling in SketchUp for a few years but still have plenty to learn. What I like best about this versatile 3-D drawing program is how quickly you can learn the basics and create useful drawings. You'll be drawing 3-D shapes in minutes, and be able to draw a simple bookcase with a few hours' practice. I use SketchUp routinely to design sheds, build bookcases or just work out a tricky building detail.

Get a copy of SketchUp by going to sketchup.google.com. Then click on "Download Google SketchUp."





Art Direction DAVID SIMPSON • Photography TOM FENENGA unless otherwise noted

by Elisa Bernick
editors@thefamilyhandyman.com

One of the most powerful tools in any pro painter's arsenal is what goes underneath the paint—primer. Primer is an excellent problem-solver that's less like paint and more like glue. It sticks to whatever you're prepping and turns it into a smooth, uniform surface that's ready for paint.

But if you've ever walked down the primer aisle at a home center, you know the primer choices are mind-boggling. To cut through the clutter, we asked three professional painters, each with 20-plus years of experience, to give us their recommendations for the best primers to use for common painting challenges. Their experience will help you choose the best primer for the job, so your paint will look better and last longer.

Interior stains and odors



KILZ

BENJAMIN MOORE

Some stains will bleed right through most primers and paints no matter how many coats you apply. The same goes for severe odors like smoke from fires and cigarettes.

The solution is stain-blocking primer, which is available in oil-based (alkyd) and water-based (acrylic-latex) versions. Oil-based versions give off a nasty smell and require paint thinner for cleanup, but they're more reliable for blocking *water-based* odors and stains like rust, nicotine, smoke, wood tannins and, of course, water (see "Shellac: The Original Primer" on p. 44 for dealing with severe stains and odors).

Water-based stain-blocking primers offer easy cleanup and less odor and come in low- and no-VOC (volatile organic compounds) formulations. These work best to block *solvent-based* stains like crayon, grease, ink and scuff marks. Both versions are white, so it's a good idea to tint them gray or close to your topcoat color if they'll be covered by dark-colored paint.

Do I always need to prime before painting?

You don't have to prime previously painted surfaces if the paint is in good shape—no chipping or peeling. Interior walls usually don't need priming except in the case of stains, repairs or a paint color that's drastically different. Interior painted woodwork usually needs spot priming at a minimum. Exterior paint takes such a beating that it almost always needs priming.

Tip: Paint within 48 hours of priming. Many primers are formulated to physically and chemically bond with the paint applied over them. Once you've primed, you should paint over it within a couple of days or it will lose its effectiveness and you'll need to prime again.

New drywall

The mud used on the seams of drywall absorbs paint differently than the rest of the drywall. This difference in porosity can cause blotchy, dull areas under the paint (a problem called "flashing") and an inconsistent sheen. Prevent this problem by using a drywall primer-sealer.

If you're an ace drywall finisher and your walls are perfectly smooth, you can use a standard drywall primer-sealer. But if you're like most of us, your finished drywall probably has some tiny pockmarks, fine ridges and scuffed paper from sanding. The solution to those minor imperfections is a "high-build" drywall primer-sealer. This heavier-bodied primer-sealer is a little more expensive than standard primer-sealer, but it does a better job of leveling and filling in rough or uneven drywall construction. (Sorry to say that not even a high-build drywall primer can hide a terrible tape job.)

Alternatively, if your drywall is relatively smooth and the topcoat is going to be a flat paint, you can skip the primer and use two coats of high-quality self-priming water-based flat paint (see "Self-Priming Paints," p. 47). The heavy-bodied paint resins in self-priming paints seal the surface and fill imperfections (which are less visible in flat paint anyway).

Moisture-prone areas

The high moisture in areas such as kitchens, closets, bathrooms and laundry rooms can cause paints to mildew, flake or peel. Interior moisture moving outward through the wall can cause peeling, bubbling or blistering on exterior walls as well. Use a vapor barrier primer to seal the surface and minimize the passage of moisture through the walls to the outside. If mildew is a serious concern, use a stain-blocking primer to prevent mildew stains from bleeding through the topcoat and then use a topcoat that specifically resists mildew (check the label). Make sure to kill any mildew with a one-part bleach and three-parts water mixture before priming.



BILL ZUEHLKE

Apply a stain-blocking primer to high-humidity areas to prevent mildew and peeling on interior walls and blistering on exterior walls.

DIY Success Story

"I did a good job of taping the drywall in our new family room, but there were definitely a couple of spots where the mud got a little thick. The guy at the paint store recommended a primer made especially for imperfect drywall. I was skeptical, but once I'd primed and painted the wall, nobody (not even me) could tell where the rough spots were."

Reed Schwender

Tell us your success story and we'll pay you $100 if we publish it. Whether it's a repair, an improvement or just a tip, send it to mystory@thefamilyhandyman.com.

Repaired walls

Like new drywall mud, wall patches absorb paint differently than the rest of the wall. To prevent flashing, cover everything from dabs of spackle to broad patches of joint compound with a good-quality drywall primer-sealer.

However, if you have plaster rather than drywall, any repairs you make will need a coat of oil-based stain-blocking primer. Without it, lime stains will form around the repairs and will bleed through the topcoat. This applies to tiny caulking and spackling touch-ups as well as major repairs with joint compound.



BILL ZUEHLKE



BILL ZUEHLKE

A drywall primer-sealer seals the porous surface so paint won't sink in and look dull or blotchy.

New interior bare wood

It's important to prime bare wood to seal the thirsty surface, hide imperfections and bind the wood fibers to make the surface more uniform. Slower-drying oil-based primers, such as an enamel undercoat primer, provide better adhesion and are easier to sand than water-based primers. If you use a water-based primer, it's likely to raise the grain of the wood and require more sanding before you apply the topcoat.

MDF (medium-density fiberboard)

Use an oil-based primer unless the MDF comes preprimed. Don't use a water-based primer, which can soak into the surface and cause it to swell. Before priming, sand the surface smooth and make sure it's dust-free. Prime all surfaces, including the board edges.

Shellac: The original primer

Shellac has been used for centuries and is still the best primer for a few situations. It's an excellent choice if you need a fast-drying spot primer to prevent wood knots, rusty nail heads and the most severe water-based stains and odors such as smoke, soot, urine and nicotine from bleeding through the topcoat. Shellac (a common brand is BIN) can soften in direct sunlight and by itself isn't durable enough for exterior use. If you use it for exterior spot priming, prime over it with a water-based exterior primer before applying the topcoat. Shellac requires denatured alcohol for thinning and cleanup. For the best results, make sure the surface is completely clean and dust-free before applying.



JIM ERICKSON

Spot-priming nail heads and knots with shellac can prevent rust and wood resins from bleeding through the topcoat.



BILL ZUEHLKE

For quicker priming, use a roller on the door and a 2-in. brush on interior trim such as casings, base and doorjambs. For a smooth paint job, sand lightly after the primer dries.

Previously painted interior woodwork

If the old paint is in good shape, there's no need to prime. But if the paint is chalking or is chipped, use an oil-based enamel undercoat primer after properly prepping the surface. An enamel undercoat primer bonds well to previously painted surfaces and improves the topcoat by flowing out to a dense, smooth uniform foundation without laps or brush marks. Fast-drying primers like shellac and many water-based products dry too quickly and become brittle. This can cause lap marks and makes it harder to sand and get a smooth base for the topcoat. Oil-based primers sand well but dry more slowly (some can take 48 hours or longer). If you want to use a water-based product, look for a high-build acrylic-latex enamel undercoat that's specifically designed to be sanded.

Drastic paint color change



ZINSSER

When you change from a light color to dark or vice versa, it can take many coats of paint to hide the existing paint color. Tinting your primer gray or a color similar to your finish paint reduces the number of topcoats you need to apply to get good results. Not all primers can be tinted darker colors, so make sure to choose one that can. Even without a drastic color change, tinting your primer gray will help enhance the color of most dark-colored interior paints and improve a primer's "hide" (how well it covers the imperfections and color of your wall surface).



JIM ERICKSON

Exterior wood

Exterior paint takes a beating. And one of the best ways to extend the life of your paint job is with a good primer. So unless you enjoy scraping paint, spend $30 per gallon on a top-quality acrylic/latex exterior primer. Look for "100 percent acrylic" on the label, and make sure the wood surface is clean, dry and dull (no sheen). On properly prepared walls, a high-quality primer can double the life of your exterior paint job.

Old exterior paint



BILL ZUEHLKE

Pressure washing removes loose paint and built-up grime and improves paint adhesion. Keep the nozzle at least 16 in. away from the wood.

If exterior paint is in great shape, there's no need to prime. But that's hardly ever the case. At the very least, you'll have to spot-prime any bare wood where the paint has peeled away. Use a high-quality acrylic/latex exterior primer. And if the paint is "chalking," you'll have to prime the entire surface. To detect chalking, just wipe the paint with a rag. If the rag picks up colored dust, you've got chalking. Before you prime, thoroughly scrub and power-wash the siding. Peeling areas with dirt and mildew must be cleaned, scraped or sanded before priming. Preparation is the key to a long-lasting paint job. If it's not done correctly, the surface will peel again within a year or two.

Tip: Use a primer and paint from the same manufacturer. Many primers are formulated to work best with certain paints.

Exterior woods that stain



SHERWIN-WILLIAMS

Cedar, redwood and a few less common woods contain lots of pigments, called tannins, that will bleed through standard primer and paint. To stop the bleeding, use an oil-based stain-blocking exterior primer for larger areas and top with an acrylic/latex finish coat. If you're going to use an oil topcoat, use only an oil-based primer. However, thanks to new water-based paint formulations, you can paint an acrylic/latex topcoat over either an oil- or water-based primer.

Self-priming paints



BEHR

Self-priming paints hit the market almost a decade ago with the promise of paint and primer in one can. The early reviews were mixed, but paint technology has continued to improve. The newest self-priming paints include Behr's Premium Plus Ultra, Sherwin-Williams' Duration and Benjamin Moore's Aura paints. The manufacturers tell us that these thick, high-build, low-VOC paints provide a dense, hard, durable paint film that resists moisture and mildew, all without using a separate prime coat. Prices for these self-priming paints range from $35 to $55 a gallon. For more information, visit behr.com, sherwin-williams.com and benjaminmoore.com.

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- For pro trim painting tips, search for "painting woodwork."
- To learn how to paint neater and faster, search for "paint fast."
- For the best painting techniques, search for "painting technique."

Install a new entry door

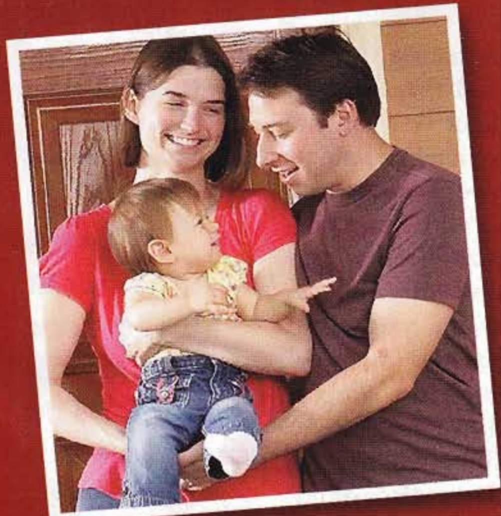
by Jeff Gorton
editors@thefamilyhandyman.com

A new door in 1 day? Let our old pro teach you a few new tricks!



Art Direction BECKY PFLUGER · Photography TOM FENENGA

Robin and Danny's front door was dented and drafty. They needed a new door, and we needed a place to photograph a door installation story. It was a perfect match. Robin and Danny agreed to install the door themselves with my help. I've installed dozens of doors throughout my carpentry career, so I knew how to guide them through the pitfalls. I have to confess, though, there were a few times when I couldn't resist jumping in to lend a hand. Still, the new homeowners did a great job of tearing out the old door and installing a new one. The new door looked terrific—we were all happy with the results. Here's how we went about the project.



Robin and Danny, shown here with 1-year-old daughter Samantha, moved into this 1992 house 3-1/2 years ago. With the door finished, they plan to tackle window repairs and then repaint the exterior. That should keep them busy for a while!

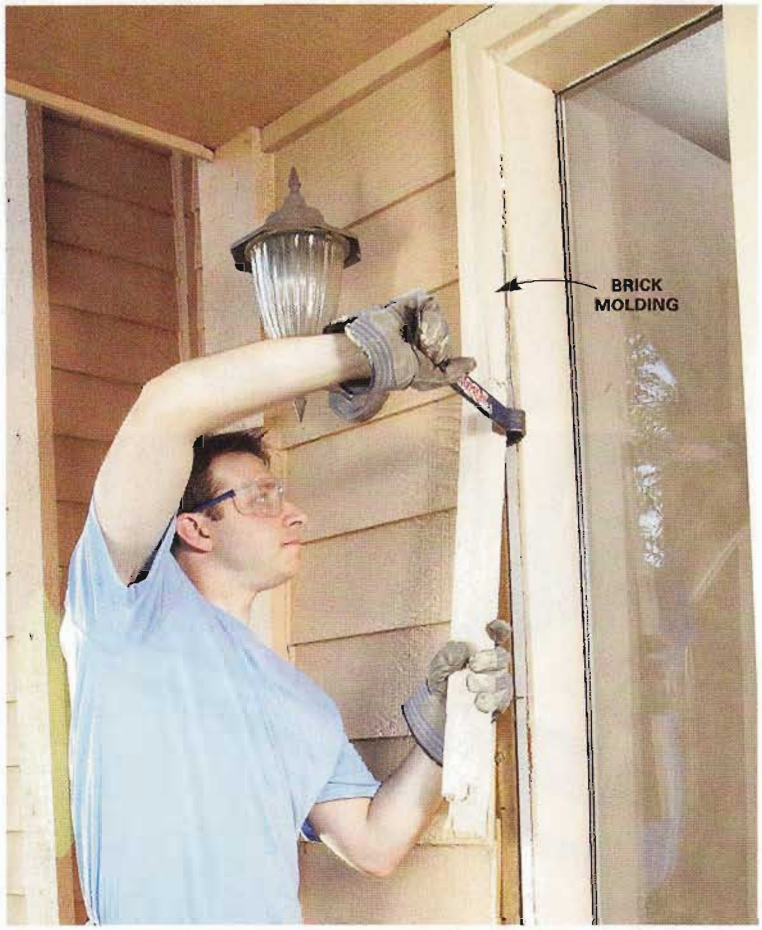
One of the biggest mistakes homeowners make is to grab a door off the home center shelf and expect it to fit right. So my first coaching task was to help Robin and Danny measure for and order the door. First we measured the width and height of the door. Then Robin carefully pried off the interior trim (**Photo 1**) so we could measure the rough opening, which is the width between the studs and the height from the floor to the header. Next we measured from the back of the outside trim, or brick molding, to the face of the interior wall to find the jamb width. Ordering the new door with the right jamb width ensures that the interior trim fits without the need for added jamb extensions. Finally we went back outside and measured the width from the outside of the brick molding and the height from the bottom of the sill to the top of the exterior trim. To avoid having to patch siding, it's best to order a door assembly that will fill the space. This may mean asking for special exterior trim that's wider than standard 2-in.-wide "brick molding." If you're ordering a door and sidelight(s), you can adjust the width by substituting a different size sidelight or by

> "Protecting the wall with a putty knife saved the wall paint. Neat trick!"
> — Robin



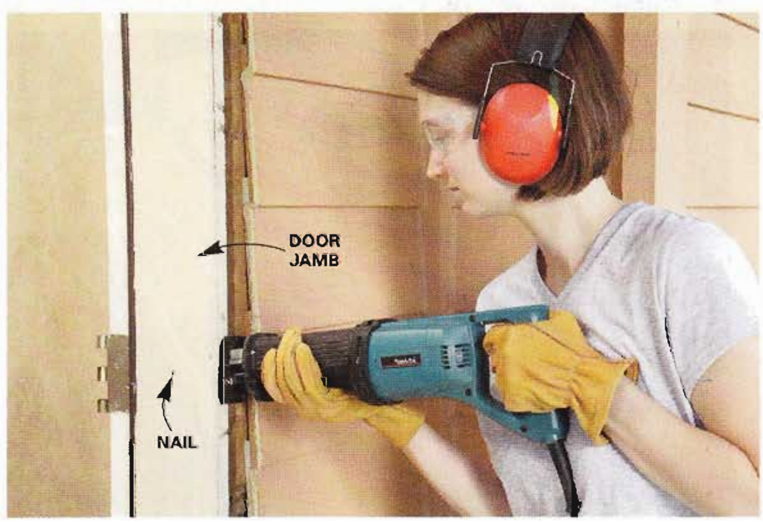
PRY OFF THE INTERIOR TRIM

1 Robin thought this was a pretty neat trick. Protecting the wall with a putty knife under the pry bar meant she wouldn't have to repaint the entry.



TEAR OFF THE BRICK MOLDING

2 Danny cut the caulk along the edges of the brick molding with a utility knife so it would be easier to remove. But the molding was still stubborn and came off in pieces.

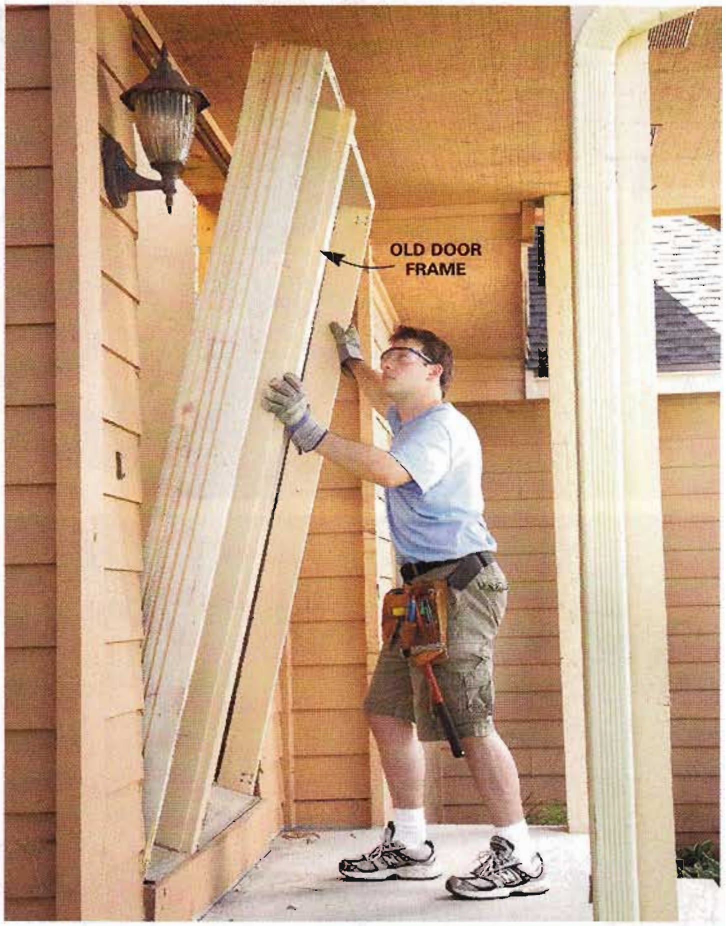


FREE THE DOOR FRAME

3 Here's Robin with her brand new recip saw cutting through the nails so the door frame will come out easily. She's looking forward to the next demolition project so she can hone her sawing skills.

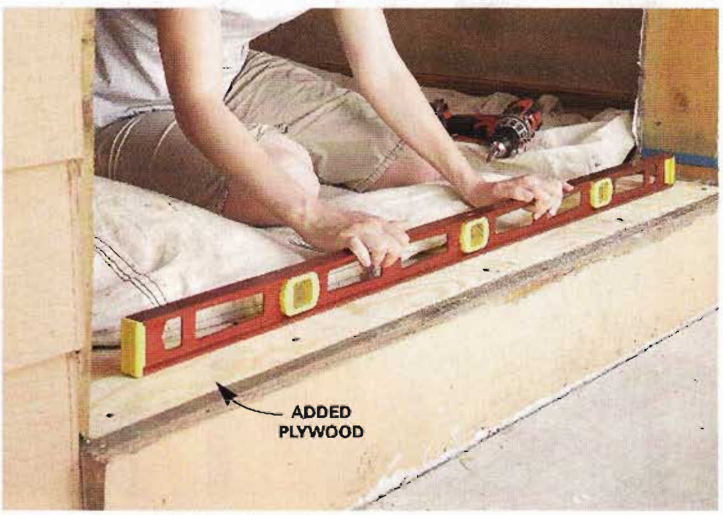
REMOVE THE FRAME FROM THE OPENING

4 Danny didn't have any trouble getting the frame out after removing the trim and cutting the nails and screws. The sill was stuck down with caulk, but broke free as Danny tilted the frame.



CHECK THE SILL

5 Robin was a lot more flexible than Danny, so he let her do most of the low work. Here she's checking the sill area to make sure it's level. They've already added a layer of plywood to raise the door a little.



CAULK THE OPENING

6 Danny's done a lot of caulking, so this part was easy. He inspected the bottom of the door frame and did some measuring to be sure the beads of caulk aligned with flat spots on the sill. When Danny finished caulking the sill, he caulked around the perimeter of the opening too.



adjusting the space between the door and the sidelight. The door and sidelight were assembled at the plant and arrived as a single unit. Installation of a door without a sidelight is the same.

> "I was shocked at all the door options available. The choices were limitless."
> — Danny

With the door size, jamb width and dimensions of the rough and exterior opening in hand, Robin and Danny went door shopping. They discovered that the standard configuration of a 3-ft. door and sidelight was a few inches too narrow and 1/2 in. shorter than their existing door and sidelight. The salesperson recommended spending a little extra money to add a spacer between the door and the sidelight. This corrected the width problem. Robin and Danny could have ordered a custom height door and frame for several hundred dollars more, but they decided to live with the height difference and cover the gap with trim later. We decided to add a strip of plywood under the sill to raise the door slightly, so in the end the shorter height worked out perfectly.

Robin and Danny wanted a door that looked like wood, minus the maintenance hassles. They chose a Therma-Tru fiberglass door with a surprisingly realistic-looking oak wood grain. The cost of the door and sidelight unit was $1,300. Fortunately (for us, anyway!), the door assembly plant wasn't too busy and the door was delivered about 10 days later.

Remove the old door

Robin was surprised at how easy the door and frame were to remove, especially after the interior and exterior trim were off (**Photos 1 and 2**). And she got to learn a new skill—operating a reciprocating saw (**Photo 3**). If you don't have a recip saw, you can use a hacksaw blade. Working in older houses or where the door is exposed to the weather, I often have to repair a water-damaged subfloor or otherwise rebuild the sill area before installing the new door. In this case, the subfloor was in good condition, but we noticed that the new door sill was thinner than the old

one. After taking a few measurements, we decided to add a strip of plywood over the subfloor to raise the door so it would clear the entry rug (**Photo 5**). Robin checked to be sure the sill area was level. We could have shimmed under the plywood with strips of building paper or scrap vinyl flooring to level the floor if necessary.

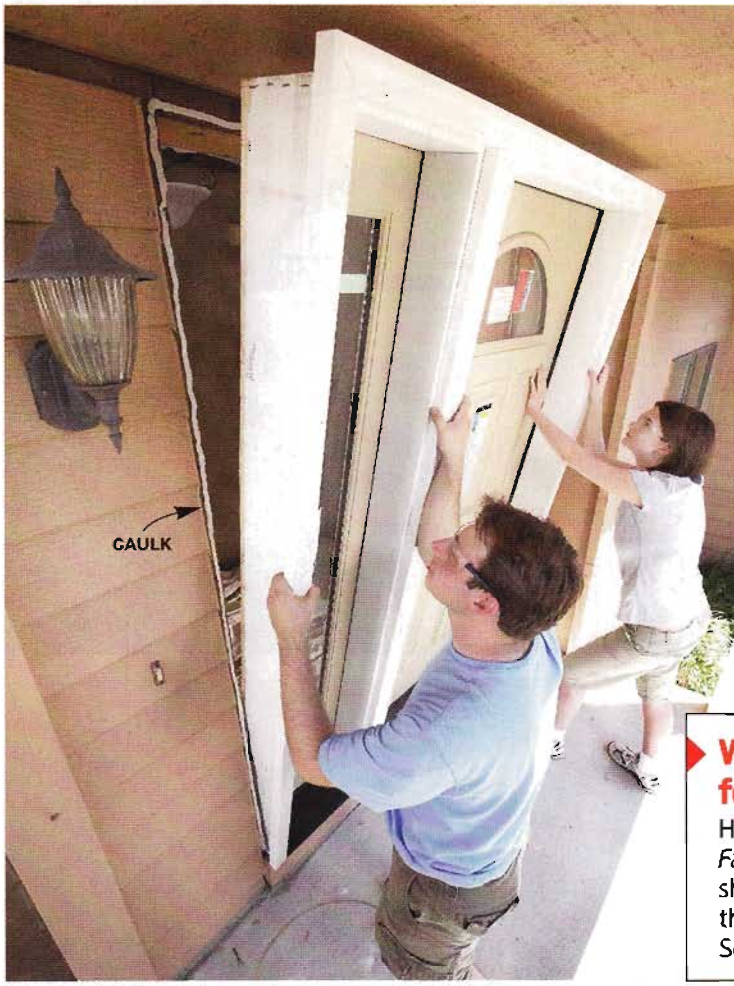
Since our door was covered by an overhanging roof, we didn't need additional protection from water, but if you install a door that's exposed to the weather, be sure to add a sill pan to protect the subfloor (one brand is Jamsill Guard, jamsill.com; call 800-526-7455 for ordering information) and a metal drip cap over the exterior trim.

Install the new door

With the old door out and the opening prepared, we were ready to install the new door and sidelight. Before we started, I explained to Robin and Danny that our goal was to set the new door frame in the opening and then adjust it with shims until the door fit perfectly. First we removed all the packing material from the new door and hoisted it into the opening to check the fit. The width was a little tight. We didn't have much wiggle room between the siding and the brick molding, but it was obvious we could make it work. So we removed the door unit and Danny applied heavy beads of polyurethane caulk to the sill and exterior sheathing (**Photos 6 and 7**). Danny and Robin moved the door to the opening and tilted it into place (**Photo 7**). Now we were ready to tack it in and add shims.

Shimming a door is the most critical part of the installation since it's when you tweak the frame to make the door fit perfectly and operate smoothly. I helped Robin and Danny center the top of the door frame with an equal caulk space between the siding and the trim on each side, and then tack the two top corners with 16d galvanized casing nails, letting the heads stick out so we could make adjustments later if necessary (**Photo 8**).

Next, Robin held a level to the hinge-side trim while Danny pried on the frame until the jamb was plumb (**Photo 9**). We drove another nail at the bottom of the hinge-side jamb to hold the frame plumb. With the door temporari-



SET THE DOOR FRAME

7 Robin and Danny could rest easy now. The door frame slid into the opening as planned and the heavy-lifting part of the job was done.

We want your feedback!
Help us improve *The Family Handyman* by sharing your opinion of this and other articles. See p. 2 for details.



TACK THE TOP CORNERS

8 Here Robin is trying out her nailing skills. The 16-penny nails proved a bit much, though, so Danny took over the nailing duty.



PLUMB THE HINGE SIDE

9 Robin was a natural with the level, so she's checking to make sure the jamb is plumb while Danny makes adjustments from the inside.

SHIM THE DOOR FRAME

10 Danny slid pairs of shims behind the hinges and along the side-light on the opposite side. He positioned the shims to create an even gap around the door.





SECURE THE FRAME WITH SCREWS

11 After checking to make sure the door was contacting the weather stripping evenly and operating smoothly, Danny drilled countersink holes and drove 3-in. screws through the jamb at each hinge location. To secure the hinge side, he removed one short screw from each hinge and replaced it with a long screw.



SEAL THE SHIM SPACE

12 Danny was experienced with spray foam, so he handled this task admirably. He managed to fill the space between the jamb and the framing with foam without getting it all over the place.



ly tacked in place, Danny and I headed around through the back door with a couple of bundles of wood shims. I gave him pointers as he wedged pairs of shims behind the hinges and along the top and far side of the frame. The goal was to create an even gap between the door and the frame (**Photo 10**). The key to shimming is to look at the gap between the door and the frame, and then decide how you can wedge the frame to correct any problems. We spent about 45 minutes adjusting shims before we were satisfied with the way the door fit.

> "I didn't know that shimming a door was such a fussy, time-consuming job." — Danny

Nails through the exterior trim hold the door frame temporarily, but they don't offer enough support to keep the door square over time. For that we still needed to drive 3-in. screws through the jamb and into the wall framing (**Photo 11**). We drove the screws at the shim locations to hold the shims in place and avoid bending the jamb. Then Danny set the nails that we had left sticking out and added nails about 16 in. apart along the exterior trim. After Danny completed this step, he made one final check of the door's fit in case adjustments were needed before we added insulation and reinstalled the interior trim.

Add the finishing touches

It was a relief to have the door securely installed. Robin and Danny relaxed, knowing they could lock the door for the night. I didn't have to warn Danny about the dangers of squirting too much expanding foam into the space around the door (**Photo 12**). He'd already learned that the hard way. With the space between the door and the frame well sealed and insulated, we moved to the outside, where we fitted a piece of trim over the door and caulked around the brick molding to seal the exterior. Now all that was left to do was install new interior trim, finish the door and install the new handle and lock.

thefamilyhandyman.com
For more information on door installations, search for "door install."

INSTANT PROJECT

by Elisa Bernick
editors@thefamilyhandyman.com



Art Direction BECKY PFLUGER · Photography TOM FENENGA

Gutter deck planter

This lightweight, durable and attractive deck planter is made from a vinyl gutter ($5 per 10-ft. length), two fascia support brackets ($2.50 each) and two end caps ($6.50 a pair). It's a snap to make. Glue one of the end caps in place and drill holes in the bottom of the gutter so the water can drain (**Photo 1**). Slide two fascia support brackets onto the gutter (**Photo 2**) and glue the other end cap into place. If you want a longer planter, be sure to add extra brackets spaced about every 2 ft.—dirt is heavy.

To prevent the soil from slipping through the drainage holes, line the gutter with newspaper or put shards of old broken clay pots along the bottom.

Shallow planters like these have a tendency to dry out. To cut your watering chore in half, mix water-absorbing polymer gel crystals (available at garden centers) with your potting mix. Or buy bags of soilless potting mix with the polymer crystals already added.

If you want a color other than white, use a spray paint formulated for plastic. Screw the planter to your deck rail (**Photo 3**), fill it with potting mix and add your plants. Enjoy!



1 Cut a 2-ft. length of vinyl gutter and glue one of the end caps into place with kitchen and bath adhesive caulk. Drill 1/2-in. drainage holes every 4 in. along the bottom of the gutter.



2 Slide both fascia support brackets onto the gutter and glue the other end cap into place.



3 Screw the planter to the deck rail through the fascia support brackets using galvanized screws.

QUESTION & COMMENT

by Rick Muscoplat
editors@thefamilyhandyman.com



$89 • .7 CFM • OILLESS



$300 • 4.2 CFM • OIL SPLASH LUBRICATION

MAKITA



$540 • 5.8 CFM • OIL LUBRICATION

CAMPBELL HAUSFELD

1 Run your brad nailers all day with a low-cost air compressor. It'll run a framing nailer, too, but you'll have to wait for the pressure to rebuild after every few nails.

2 Pony up more money to get a quality portable oil-lube compressor that's powerful enough to run all these air tools, including a framing nailer.

3 Blast big bolts with a powerful impact wrench and a heavy-duty compressor. This model has a 20-gallon tank, twin pistons and a fully cast iron pump.

LESS THAN 2 CFM



RUNS THESE TOOLS

AT LEAST 4 CFM



RUNS THESE TOOLS

5.5+ CFM



RUNS ALL TOOLS

Air compressor quandary

QUESTION

My old air compressor pooped out and I need a new one. I see air compressors advertised for less than $100. Are they even worth having?

It all depends on how much you'll be running it, and what you plan to use it for. Compressors that cost less than $100 are very portable and will do a fine job of running a trim nailer, filling tires or blowing dust off your clothes—but that's about it. You'll have to be patient; they take a long time to get up to pressure and to fill tires. If you do decide on a cheap compressor, consider it a "throw-away" tool and be prepared to replace it when it dies. Virtually any repair will exceed the replacement cost.

If you can afford to spend about $300, you can get a portable compressor that'll power most DIY air tools and last for a couple of decades (see **Photo 2**). Look for a compressor with a cast iron cylinder, oil lubrication and air output of at least 4 cu. ft. per minute (cfm). You'll have to change the oil on schedule to keep it humming. But the longer life outweighs the hassle. Also be aware that oil-lubricated compressors inject a fine oil mist into the air line. So you'll need to invest in a separate hose and a filter if you're going to use a paint sprayer.

You can find less expensive, oilless compressors ($129 to $199) that will put out 4 cfm, but don't expect them to last as long. And you'll need to wear hearing protection—they're LOUD!

If you're a serious motorhead, you'll have to take a larger leap. If you want to run "air-motor" powered tools like impact wrenches and ratchets, you'll have to get serious with a unit that's capable of at least 5.5 cfm with a sizable air tank. Just forget about running air-powered sanders and sandblasters—those guys require almost 9 cfm (see **Photo 3**). Expect to spend $540 plus for a good one. But the only thing that makes them portable is the wheels. They're heavy and bulky.

Art Direction DAVID SIMPSON · Photography TOM FENENGA unless otherwise noted · Consultants CHARLIE AVOLES and LES ZELL, MASTER PLUMBERS

QUESTION
Which deck hardware to use?

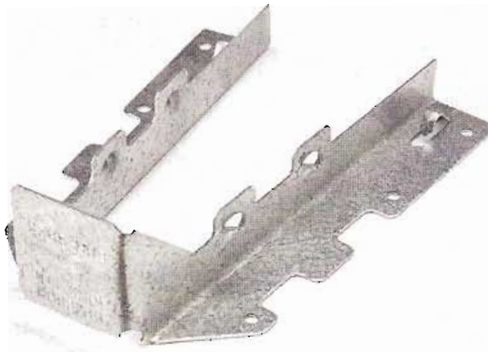
I'm shopping for hardware for my new deck. I see galvanized, triple galvanized, something called Gold Coat and stainless steel. There's a huge difference in price. Is the pricey stuff worth it?

If you live in a coastal area (near salt water), you don't have a choice—the building codes require stainless steel hangers, plates and fasteners. But if you live inland, you have more options. Most codes allow you to use hot-dipped galvanized (sometimes called triple-zinc) hardware (see **Photo 1**).

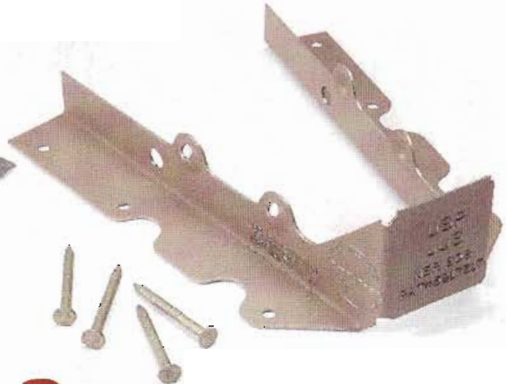
However, if you want to take a step up in corrosion protection, you can buy Gold Coat galvanized hardware that's been treated with an inert barrier coating (see **Photo 2**). It costs three times more than traditional hot-dipped hardware, but lasts longer (for more info, visit uspconnectors.com). Or you can increase the life of triple zinc hardware by installing corrosion-resistant flashing between the wood and the hot-dipped galvanized hardware (**Photo 3**). Grace Vycor Deck Protector (graceathome.com) and Protecto Deck Flashing are two brands; they're available from your lumber supplier. It's ugly, so you might not like it on a raised deck where you can view the deck from beneath.

Before you decide on hardware, consider this. The newer arsenic-free treated lumber hasn't been in the field long enough for anyone to know how long hot-dipped hardware will last. Since the hardware is the least costly part of your deck, you might want to hedge your bets by upgrading to stainless steel even though it's seven times more expensive. That way, you'll never have to replace hardware. This advice is especially germane for decks sporting super-long-lasting composite materials. There's a real chance the decking materials will outlive all the hardware.

Note: Never mix fasteners. Use stainless nails with stainless hardware, and galvanized fasteners with galvanized hardware.



1 Install triple-zinc deck hardware with hot-dipped galvanized fasteners.



2 Secure the coated hangers with the manufacturer's matching nails. They're colored to blend with wood tones.



3 Increase the life of zinc-plated hardware by applying corrosion-resistant flashing to the top and sides of the joists.

GRACE CONSTRUCTION PRODUCTS

QUESTION
When to stain a deck

I'm building a deck with treated lumber and want to stain it. The guys at the paint store disagree over whether I can stain it right away if I use a penetrating stain. What's your advice?

You can stain it right away with a transparent or semi-transparent penetrating stain—*if* you build the deck with kiln-dried-after-treatment (KDAT) lumber (expensive and hard to find). But if you use regular treated lumber, or treated lumber with built-in water repellent, wait until the wood is dry before staining. (Preserve Plus and WeatherShield Premium Pressure-Treated Decking are two brands that include water repellent.) How dry is dry? There's no easy test for that. If you apply a penetrating stain while the wood is still wet, it will soak in but it won't bond well. That will reduce its service life and you'll be restaining in a year. To get longer-lasting results, wait six months. And stay away from solid stains on areas that get foot traffic. They won't hold up and will be a constant maintenance hassle.

Consultants CHRIS HUNT and MARK KNAEBE FOREST PRODUCTS LABORATORY







QUESTION

Buggy over bug lights

I installed those yellow bug lightbulbs in my outdoor light fixtures. But I still see bugs hovering around the bulbs. What gives?

The yellow color of bug lights doesn't repel bugs. It just filters out the UV rays that attract bugs. If the bug has a direct line of sight to the bare bulb, it can still see some UV rays. So the best way to use a bug light is to install it in a sconce, can or shielding (chimney-type) fixture, where the yellow light shines up or down, rather than directly out into the yard. If you have a line of sight directly at the bulb, the pests do too.



Mask off the door and walls and pull a rag around the hinge. Bump the hinge pin up a bit. Then spray the hinge with dry Teflon lube.

QUESTION

Dust under hinges

I keep finding a fine gray dust on the carpet under my door hinges. The door doesn't squeak, so I haven't oiled it. Should I try that?

That dust is the metal wearing away. Lubricating the hinge with oil will help for a while. But the oil itself attracts dust and grit and that actually accelerates the wear. Instead, buy a spray can of dry Teflon lube at any home center. Soak the hinge with the spray as shown. Once the solvent evaporates, it will leave a dry layer of Teflon to prevent further wear.

COMMENT

Are stilts for amateurs?

A few readers commented on our story about removing a textured ceiling. They suggested using stilts instead of a ladder. That's great for pros who've had lots of experience. But it's not a good idea for the average DIYer. It takes a lot of coordination to keep your balance while working overhead. All you need is one distraction or a step into a glob of slippery joint compound and you'll be out of work for weeks, and that's if you're lucky!



Leave stilts to the pros and work from ladders or rig up safe scaffolding.

COMMENT

Bad advice on cleaning barbecue grates



Repack a stem seal on a street valve

The street-side valve at my water meter has been dripping for years. I tightened the stem nut, but it still leaks. The utility wants $40 to shut the water off. Can I repack the stem with the water on?

You can repack the stem with the water on, but you'll get some water spray once you loosen the packing nut, so move anything you care about away from the meter area.

Most old valves have rust and mineral deposits in the gate valve's receiving groove. That crud can jam the gate and damage the valve. Gently close the valve (don't force it). Then open the cold faucet at your laundry tub. Next, open the street-side valve slightly. The rush of water will flush out the crud. Shut off the laundry faucet, then the street-side valve (in that order).

Buy Teflon packing rope at any hardware store or home center. With the valve in the off position, loosen the packing nut and slide it toward the handle. Then repack the stem.



Wrap one wind of stem packing rope around the stem. Tighten the packing nut and open the valve. If it still leaks, back off the packing nut and add a few more winds of packing rope.

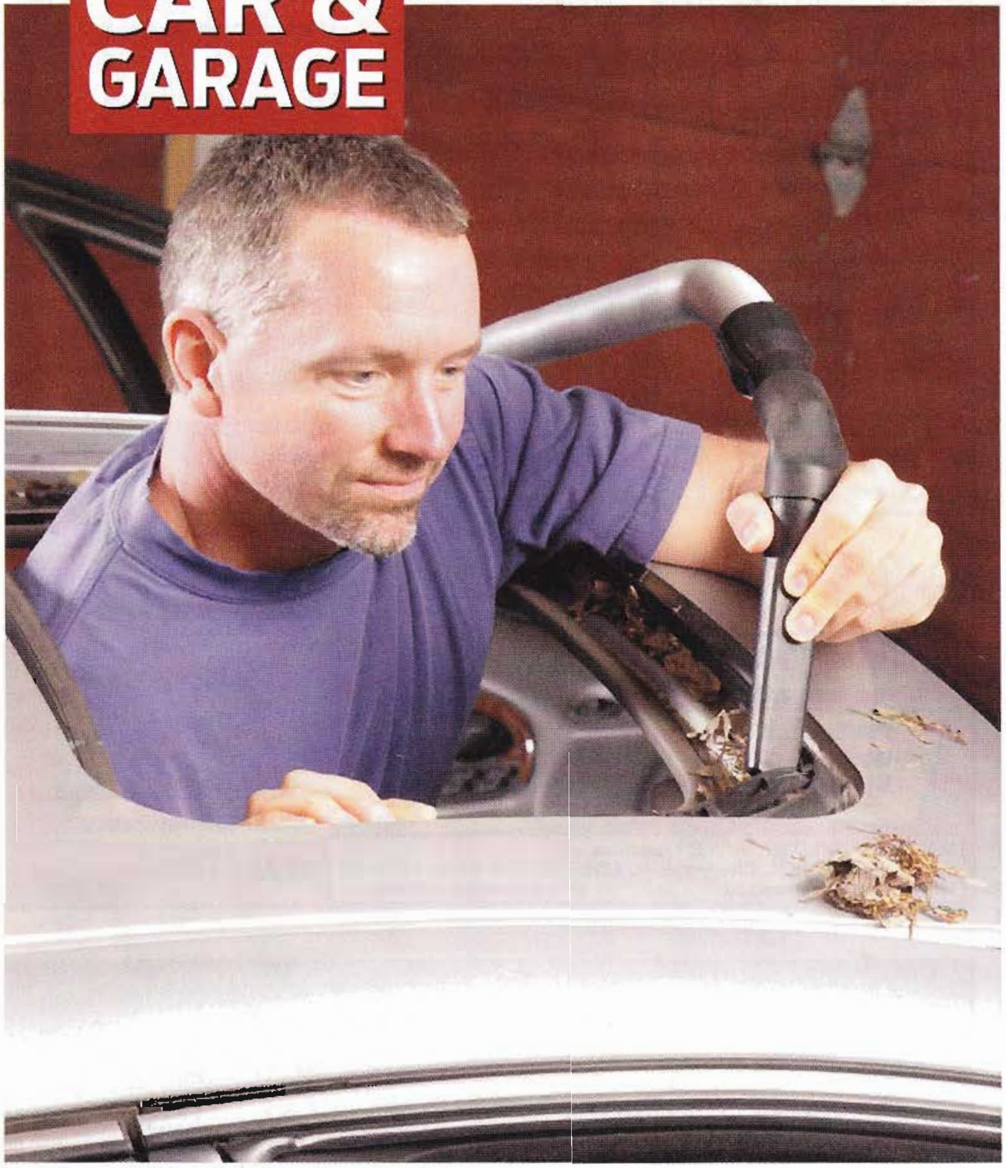


In the Oct. '09 issue, we published a reader's Handy Hint to clean greasy barbecue grates by running them through the self-cleaning cycle on your kitchen oven. Bad idea! Turns out the grease smolders like crazy, billows out the oven vent, and fills the whole house with acrid smoke. Since the oven stays locked until the end of the cleaning cycle, there's no way to shut it off. Instead, leave your grates right on the grill and turn up the heat. That'll cook off the grease safely outdoors.



CAR & GARAGE

by Rick Muscoplat
editors@thefamilyhandyman.com



Art Direction BOB LINGAR • Photography TOM FENENGA except where noted

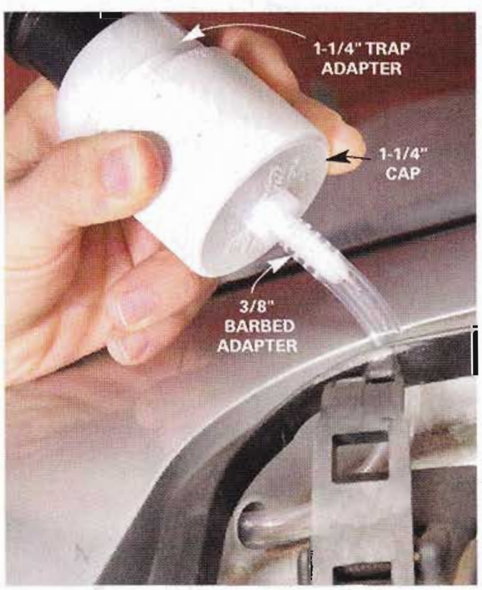
Fix a leaking sunroof

You've got water on your seats right below the sunroof, and you're about to take matters into your own hands. We're warning you: *Put down the caulk gun and step away from the vehicle.* Usually it's simply a drain tube that's clogged with debris. Then the water can't drain and it overflows into the cabin. And that's a simple DIY repair that you can do in about 20 minutes.

Open your sunroof and look for the drain holes in both front corners. Those tubes run through the door pillars and drain through to the rocker panels. You may be tempted to run a coat hanger down the tubes or blast them with compressed air. Don't! You might poke the wire right through the tubing or disconnect it from the drain hole. Then you'd have to remove the entire headliner to reconnect it—a big job. Instead, use a shop vacuum and small-diameter vinyl tubing to suck out the clog (**Photo 1**).

If that doesn't do the trick, try running a very small flexible "plumbing" snake down the tube to break up the clog. (Actually, it's a speedometer cable found at any auto parts store for about $8.)

If cleaning the tubes doesn't work, don't try to disassemble the mechanism or bend the sheet metal to get a better fit. That's a job for a top-notch body shop. If the car isn't worth the cost of the repair, we rescind our earlier warning. Go for the silicone and live without the wind in your hair.



1 Make a hose reducer with ordinary PVC plumbing parts and attach a vinyl hose to the end. Then vacuum the crud out of the water channel and the drain tube.



2 Snake out a really stubborn clog with a speedometer cable. Twist the cable as you feed it down the tube.



Ford's new 4-cylinder EcoBoost Engine

Ford EcoBoost engine

Fuel injection and computer control are so yesterday. Ford's new EcoBoost engine technology kicks the technology ball so far down the road that it's playing in a different ballpark. To get up to 20 percent better fuel economy and 15 percent lower emissions, Ford couples gasoline direct injection (DI) with totally redesigned turbochargers (the V-6 engine has two of them).

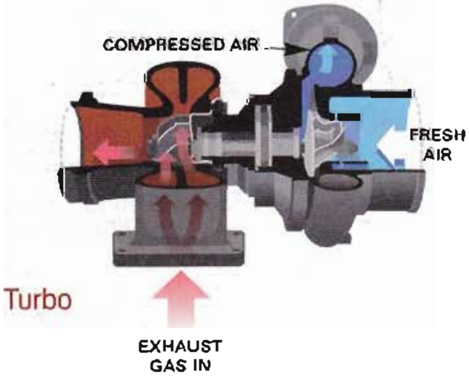
Ordinary fuel injectors spray the gas behind the intake valves at about 50 psi. But DI injectors inject fuel directly into the combustion chamber at much higher pressures (220 to 2,150 psi). That higher pressure cools the incoming air and reduces the likelihood of knock. To reduce heat further and assist vaporization, the computer varies the injector spray pattern during the entire compression stroke.

These new turbochargers bear no resemblance to their predecessors. These high-tech babies run at ultra-high speeds (up to 200,000 rpm) to give quick response and eliminate "turbo-lag." To keep them cool during these incredible revolutions, Ford has engineered liquid-cooled bearings.

The EcoBoost engine, which is made at the famous Cleveland engine plant, will be available on 90 percent of Ford vehicles by 2013. This truly is an innovation in engine technology. For more information on the EcoBoost engine, visit thefordstory.com. Then enter "EcoBoost" in the search bar and scroll down to the story, "A V-6 Engine Like No Other."



DI Injector



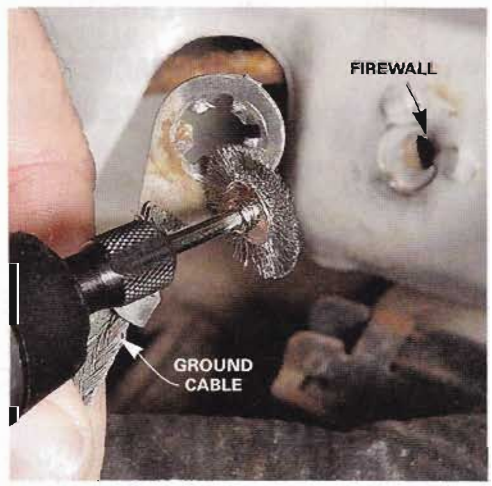
Turbo

Exorcise electrical gremlins

Do the needles on your gauges jump around, sweep from side to side or just plain refuse to budge? How about your other electrical accessories—do they work intermittently or so strangely that you swear they're possessed? If so, it's time to clean your ground cables.

The pros always start by cleaning the ground cables. Carmakers use the steel body as the return "ground" electrical path, so when the cables corrode (and they *will* corrode), the stray current can cause all sorts of strange behavior.

A rotary tool with a wire brush works great. But you can also use sandpaper. The key is to get shiny metal on all the connections. Use a shop manual to find the locations of the other ground connections in your vehicle.



1 Remove the ground cable at the firewall or fender and clean both the steel and the ring with a wire brush.



2 Coat the bare steel with dielectric grease and reassemble the connection. Then smear a dab of grease around the entire connection.

ASK THE MECHANIC

The pros and cons of extended warranties

Q I'm buying a new car for the first time in 12 years. Should I buy an extended warranty, or are new cars more reliable?

A New cars are more reliable than your old clunker. But they're also loaded with computers and sensors. A moderately equipped vehicle can have as many as 10 separate computers controlling nearly everything that has moving parts or electronics. When one of those computers fails, the repair can easily exceed $1,000. Even if the computer only needs a software update, you'll still have to pay upward of $200 to fix the problem.

You can buy non-factory warranties, but factory-extended warranties are the best because they cover more components. But they're also more expensive. Just be aware that the dealer's prices on factory *are* negotiable—so haggle.

COOL NEW ACCESSORIES



GARMIN

Brainier navigation

Even if you're not map impaired, you need this cool GPS from Garmin. It taps into traffic reports and reroutes you around traffic jams. That'll save you time. Want to pick up food on the way? This baby will pull up all the restaurants along your route and sort them by cuisine. Get the Bluetooth model and you can use it as a speakerphone.

Garmin nüvi No. 1390T; $240 from amazon.com. (No. 1350T is shown.)

NEW CAR FEATURES



MAZDA

2010 MAZDA5
A van that doubles as a pickup

If you're in the market for a new family "go-getter" but need something that can haul your project materials from the home center, take a good, hard look at the MAZDA5 van. It has six seats to hold the kids and their friends. My daughter owns a 2008 model, and my son, "Musco Jr.," just bought a 2010. They love them.

When it's weekend project time, you just fold down the seats and pack the 44.4-cu.-ft. space with your project materials (4 x 8-ft. sheets have to travel on a roof rack).

Loading the goods into the van is easier too. The MAZDA5 has the lowest sill height of any van in its class—just 25 in. off the ground. The lower sill height means that loading up those 55-lb. bags of concrete mix won't affect your golf game the next Saturday.

With a list price just under $18,000, the 2010 MAZDA5 is loaded with features normally found on more expensive vehicles. Dynamic stability control, traction control, ABS braking and emergency braking assist are all standard.

The MAZDA5 is built with four-wheel independent suspension for a more comfortable ride. The steel unibody construction improves crash safety and provides better handling while reducing vibration and harshness—making for a quieter driving experience. (Unibody construction is pretty rare in a van.)

You won't find a van with as many features in this price category. Maybe that's why they sell as soon as they hit the sales floor.

For more info, visit mazdausa.com.





The pencil gauge is dead

Checking your tire pressure is a great idea. But what if you can't trust your tire gauge? We tested a few brand new pencil-style mechanical gauges and found them to be off by as much as 10 percent. Why is that so significant? Well, your ABS brakes, traction control and stability control systems constantly monitor tire rotation. And incorrect tire pressure can affect their readings. It's time to upgrade your toolbox with a digital Tire Pressure Monitoring System compliant pressure gauge. A compliant gauge is guaranteed accurate within 1/2 lb. This gauge from Acme (No. A564; $21 from tooldiscounter.com) has an illuminated display so you can check your tires in any light condition.

QUICK READ

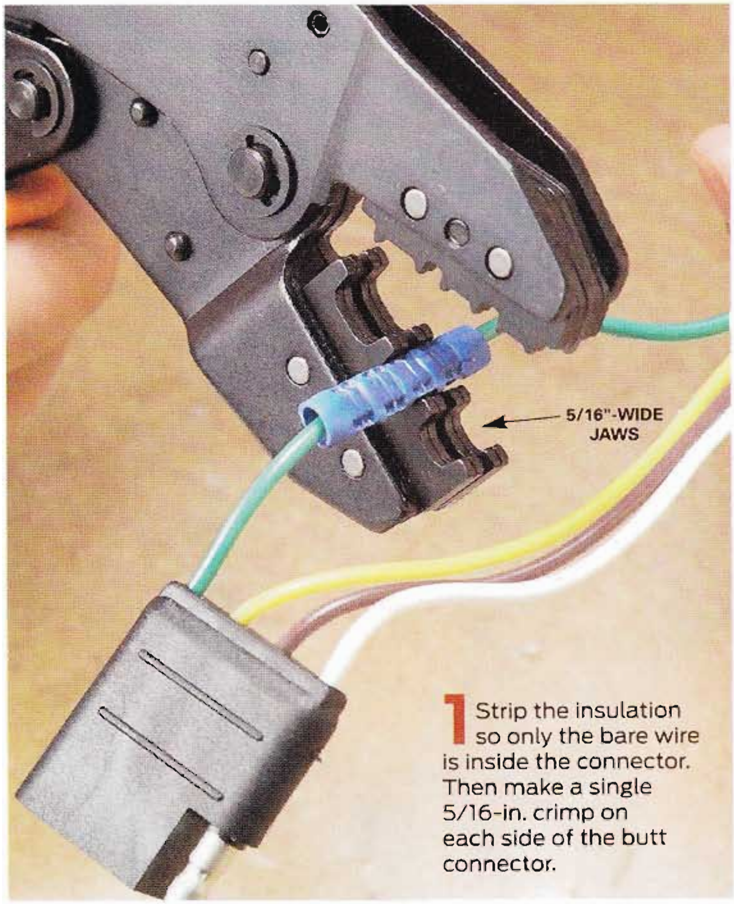


Bet you didn't know this!

Your air bag light is on and you've decided not to fix the problem. But did you know that the computer keeps track of how many times you start the car with a nonfunctional air bag? If your passenger is injured because the air bag didn't deploy, think about how much fun the lawyers could have with that information after an accident.

By the way...

Ordinary aerosol "fix-a-flat" tire products can ruin your tire pressure monitoring sensor. To avoid replacing a $200 sensor, make sure the can label says "sensor safe."

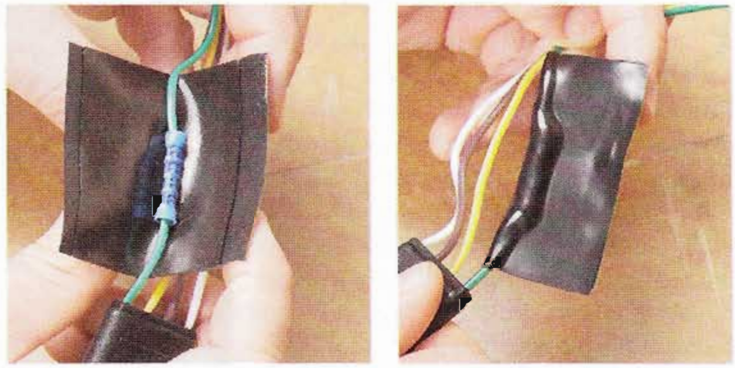


1 Strip the insulation so only the bare wire is inside the connector. Then make a single 5/16-in. crimp on each side of the butt connector.

Splice automotive wires in seconds

Crimp-on wire connectors work well if they're crimped properly (a 5/16-in.-wide crimp) and sealed (usually with heat-shrinkable tubing). But most cheap crimping tools only make a 1/8-in. crimp, so you'd have to make four of them for a simple butt connection.

Invest $20 in a professional crimping tool (OTC No. 4497 from sjdiscounttools.com). Then buy a roll of electrical moisture sealant (3M No. 06147; $16 from amazon.com). Then just follow the steps in **Photos 1 and 2**.



2 Cut a section of moisture sealant to cover the entire connector and a 1/2-in. overlap on each end. Then double it over and squeeze it together with your fingertips.

DOLLAR SAVVY HOMEOWNER

by Elisa Bernick
editors@thefamilyhandyman.com

The lowdown on buying carpet

Shopping for carpet is a lot like shopping for a car. It involves a huge financial investment; all the different styles, colors and brands can make your head spin; and you often end up dealing with high-pressure salespeople. The experience can be so overwhelming that it's tempting to shop with only a basic color and style in mind and rely on salespeople for recommendations.

Don't. Carpeting is one of the largest investments you'll make in your home. By doing some basic homework, comparison shopping and working with a reputable retailer, you'll be able to buy carpeting that fits your needs—and gives you confidence that you're getting a quality product for a good price.

This article will give you a basic background in carpet styles and quality and discuss the primary things to think about when you're shopping for new carpeting. We'll give you tips on what to look for as well as what to look out for. We're going to concentrate on synthetic fibers in this article. Natural fibers like wool are gorgeous, but they're out of most people's price range.



Bend the carpet sample backward. If you can see the backing easily, it's a low-density (lower quality) carpet that will crush more easily.

Art Direction BECKY PFLUGER · Photography TOM FENENGA unless otherwise noted

Carpet styles

Saxony (also called velvet or plush) is a cut pile that works well in formal dining rooms, living rooms and bedrooms. It shows footprints and vacuum marks and is not a good choice for high-traffic areas and active kids. The basic grade lasts about five years.



Textured cut pile has more than one color of yarn and varying tuft heights. Its two-toned appearance hides dirt and reduces footprints and vacuum marks, making it a better choice for active lifestyles. It's similar to Saxony in life expectancy and cost.



Frieze ("fri-zay") is the most durable and most expensive of the three cut pile styles. Its tightly twisted tufts give the surface a nubby texture that covers footprints. It wears better than Saxony and textured, can be used in heavy traffic areas and can last 20 years or more if well maintained.



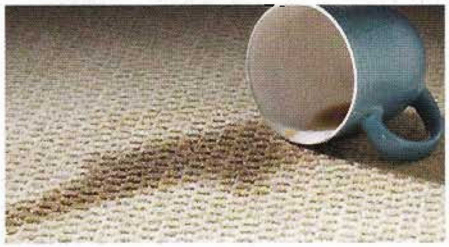
Choose the right type of carpet fiber for your needs



Nylon outperforms all other fibers in durability, resilience and easy maintenance. This is a good choice if you want your carpet to last a decade or longer, for high-traffic areas, and in homes with kids and pets. Higher-quality nylon fibers are "branded," and the carpet label will use terms like "100% Mohawk Nylon" or "100% Stainmaster Tactesse." Lower-quality, "unbranded" nylon fibers are listed simply as "100% nylon." The strongest and softest type (and most expensive) is 6.6 nylon. Cost is $10 to $45 per sq. yd.



Polyester (also called PET) is stain resistant, very soft and luxurious underfoot, and is available in deep and vibrant colors. However it's harder to clean, tends to shed and isn't as durable as nylon. It's best used in low-traffic areas (like bedrooms) and in households without kids or pets. A nice, cushy choice if you like to exercise on the carpet. The cost is $8 to $18 per sq. yd.

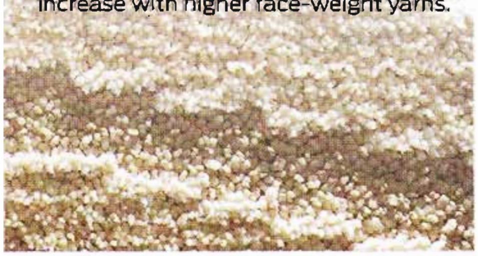


Triexta (brands include SmartStrand and Sorona) is a newly classified fiber derived partly from corn sugar. It has excellent, permanent anti-stain properties (nylon must be treated with stain protectors over its life span). It also has good resilience, but it's too soon to tell whether it will match the durability of nylon in high-traffic areas. Because of its superior stain resistance, this is a good choice if you have young kids or pets. Expect to pay $20 to $45 per sq. yd.



Olefin (polypropylene) is an attractive, inexpensive fiber that's strong and resists fading, but it's not as resilient as nylon. It's most often made into a looped Berber with a nubby weave that conceals dirt. It has good stain, static and mildew resistance. Olefin carpeting is often selected for high-traffic "clean" areas such as family rooms and play areas. It costs $8 to $25 per sq. yd.

Sculptured, or cut-and-loop, made with looped and non-looped tufts, is economical and durable. The varied shading hides dirt well, but the seams can be more visible. Prices start at about $6 per sq. yd. for 26- to 30-oz. face weight. Price and durability increase with higher face-weight yarns.



Looped or **Berber** is popular for its elegant appearance. Berbers with smaller loops wear better than large-looped Berbers, which mat down quickly and are harder to clean. Not good if you have small children or pets (toys and claws) because they snag and run easily and are tough to repair.



Where to buy carpet

Visit several retailers, including local, family-owned businesses that survive on customer referrals. Choose the one that will give you the best service, price and guarantee. Be aware that $199 "basic installation specials" often include hundreds of dollars in extra fees for basic installation items like steps, furniture moving, and carpet and pad removal. Carpet retailers located in a mall or other high-rent locations tend to have higher overhead that is passed on to you in higher prices.

In a nutshell

- Do your research, and make sure a salesperson doesn't make the decisions for you.
- Base your carpet and pad decisions on your lifestyle, household occupants (kids and/or pets) and traffic levels. Also consider the desired life span, maintenance requirements, and the looks and price of the carpet.
- Common sales gimmicks such as "free pad with carpet purchase" can get you cheap pad that can wreck your carpet.
- Take the carpet samples you've selected to at least three stores and compare prices of similar products.
- Get every item in your carpet bid priced individually. This will make it easier to compare bids.

Buy the right pad

The quality of carpet pad is determined by density, not thickness. The right pad will extend the life of your carpet. The wrong pad can cut the life of your carpet in half. A good-quality pad will be 3/8 to 1/2 in. thick and have a density/weight rating of at least 6 lbs. (the residential standard). In most cases, cheap, low-density pad will only last a few years before it needs to be replaced. For high-traffic areas, get a thinner pad with a density of 8 lbs. or more. Some carpet manufacturers require a specific type of pad in order to maintain your carpet warranty (such as when the carpet is laid over heated floors). Check the carpet warranty before you buy padding.

The signs of a quality carpet

A salesperson might tell you that a certain carpet is a good deal, but don't rely on his or her word alone. Check the label, handle the carpet and ask the salesperson about these signs of quality.

At least a 34- to 40-oz. face weight. This is the number of ounces of fiber per square yard. The range is generally from 20 to 80, and the higher the number, the heavier and more resilient the carpet.

A tuft twist of 5 or higher. Twist is the number of times the tufts are twisted together in a 1-in. length. The higher the number, the more durable the carpet.

A density rating of 2,000 or more. Density is determined by the thickness of the fibers and how tightly packed they are. The thicker and heavier they are, the better quality the carpet and the less susceptible to crushing. Bend the carpet sample backward. If you can see the backing easily, it's a low-density (lower quality) carpet.

Is it BCF or staple fiber construction? Carpet fibers can be either Bulked Continuous Filament (BCF) or "staple." Staple fibers shed more than BCF fibers. This doesn't affect the long-term quality of the carpet, but it does mean you'll have to vacuum more often until the initial shedding stops (which can take up to a year), and it can also be an issue for allergy sufferers.

At least a 10-year "texture retention" warranty. This covers how well the fibers return to their original shape after being walked on. Although manufacturers tout their 15- and 25-year warranties, salespeople caution that warranties are seldom honored except in cases of obvious product defects.



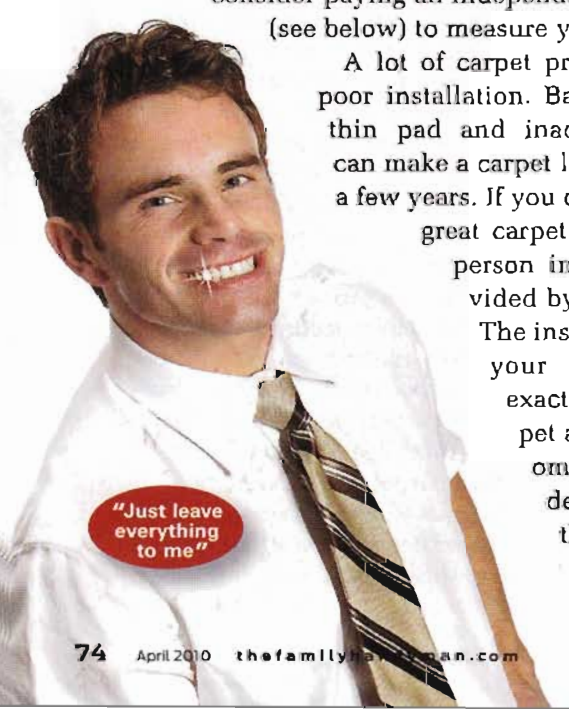
STAINMASTER

Masland's "Broadacre" is a sculptured cut pile made of 100 percent Stainmaster Tactesse nylon and comes in 12 colors (maslandcarpets.com).

How to get the best deal (and avoid being ripped off)

Salespeople have a tendency to "overmeasure" your carpet needs. This means you pay for carpet and pad you don't use. Get several estimates, compare the yardage numbers, and consider paying an independent carpet installer (see below) to measure your home.

A lot of carpet problems stem from poor installation. Bad seaming, a too-thin pad and inadequate stretching can make a carpet look terrible within a few years. If you or a friend knows a great carpet installer, use that person instead of one provided by the carpet dealer. The installer will measure your house, tell you exactly how much carpet and pad to get, recommend a quality dealer, and pick up the carpet and deliver it on installation day.



You can save yourself some money on the installation by removing the old carpet and pad yourself. Ask your installer how much you'll save to see if it's worthwhile.

Get at least three estimates. Tell every salesperson that you'll be getting several estimates, and don't discuss details about other carpet bids you've received.

Have each carpet estimate include a flooring diagram that shows measurements and seam locations.

Get an individual price quote for each aspect of the job, including carpet, pad, delivery, installation, transition metal pieces, furniture moving, stairs, and old carpet and pad removal and disposal. It's easy to be overcharged if you just get an overall price for the job.

Make sure you're home on installation day. Get a sample of the carpet and pad you've ordered and compare them with the carpet and pad that show up on the truck. In some instances, retailers deliver a lower quality pad or carpet than you've paid for.

We want your feedback!

Help us improve *The Family Handyman* by sharing your opinion of this and other articles. See p. 2 for details.

READER PROJECTS

WIN $500!

From trash to treasure

For many DIYers, there's nothing more satisfying than turning something useless into something useful. If you're one of those trash transformers, this is the contest for you. We pay $100 for any idea we use. And if you're the contest winner, you'll get $500! To enter, go to thefamilyhandyman.com/myproject.



READER PHOTO

Five-dollar log cabin

Champion "Dumpster diver" Ted Shumaker spent just $4.86 building this playhouse for his granddaughter. The logs, tossed out by a local home center, were too warped and twisted to sell. But not too warped for Ted to use. All the other materials—plywood, shingles, even the roofing nails—came out of trash bins at a building site. The only thing Ted bought was a box of screws, which he used to screw the logs to a 2x4 framework from inside the cabin.



"One man's junk is another man's gift from the Great Provider."

Ted Shumaker

Old mower, new cart

Bruce Bagne tells us that he occasionally gets brainstorms—"some good, some not so good." Here's one of the good ones: Bruce converted an old mower into a cart for his pressure washer. First, he removed the engine to create a platform for the pressure washer. Then he got another brainstorm and cut away the front and sides of the deck so it would take up less storage space.



"Turning a lawn mower into a cart takes about 15 minutes. Just remove the blade and a few bolts and the engine comes right off."

Bruce Bagne



READER PHOTO

Editor GARY WENTZ · Art Direction MARY SCHWENDER

SHOP RAT

by Travis Larson
editors@thefamilyhandyman.com



Greatest shop tip in history

Last fall, I was out running the leaf blower and noticed my filthy shop vacuum filter sitting on the slab waiting for a cleaning. That meant hauling the air hose outside and holding the filter at arm's length while I became enveloped in a giant dust cloud. Not this time. It took me about five microseconds to put two and two together. Five more microseconds with the leaf blower and that filter was cleaner than ever. Now the filter—and the dust—are 5 ft. away from my lungs, clothes and hair. Can't call me Pigpen anymore.

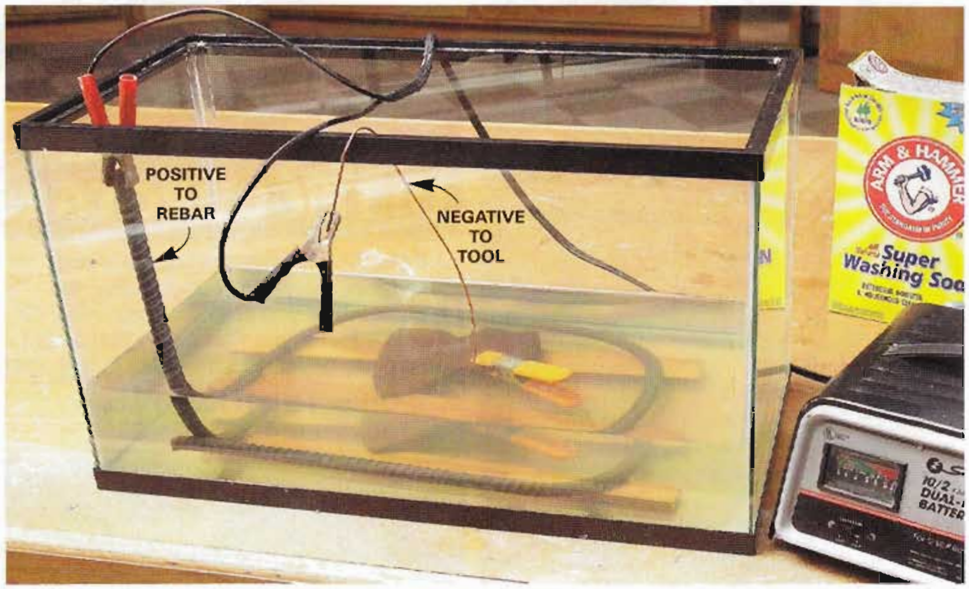
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Lumber library

OK, you know the drill. You go to the lumber pile and wonder what length the board is, what species of wood it is and then, whether it's worth digging through the pile to get it out. Sometimes it's easier to just go and do the Sunday crossword. Reader Jamie Smith has a simple tip. Label the ends with a permanent marker when you put them in the rack to begin with. Duh, wish I'd thought of it years ago.



Art Direction MARCIA ROEPKE • Photography TOM FENENGA



Electrolysis—not just for hair removal anymore!

I read about this rust removal technique in *American Woodworker* magazine several years ago and decided to give it a shot. It seems like something you'd see on "MythBusters," but guess what? There's no myth busted here; it really works. I'd like to explain all the neutrinomistic-plasmotical physics involved, but, um...I just don't have the space, so I'll just tell you how to do it.

You'll need a plastic or glass container deep enough to hold enough water to cover your rusty item. And you'll also need a battery charger, a $3 box of washing soda (found with the laundry detergents at just about any big grocery store), a short copper wire and some rebar bent to fit around the object you're restoring. Hook everything up as shown and walk away. Tomorrow morning you'll be amazed to see how rust-free Grandpa's old hatchet is. It gets rid of most of the rust, but you'll still need to polish with sandpaper, steel wool or Scotch pads to get down to bare metal.



This gunky water is actually quite safe, although I wouldn't use it to mix cocktails. It can be dumped down any drain.

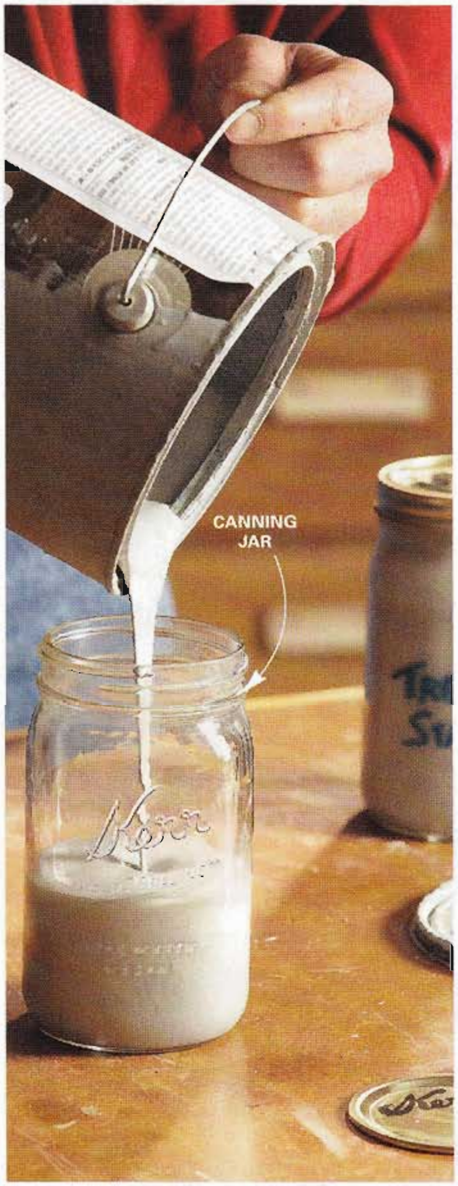
When your kid comes home telling you about the science fair project, baby, you are ready! Only you still have to figure out that science-y stuff for the display. And by the way, don't e-mail me for help with *that*—I'm really busy.

Grandpa's hatchet—before electrolysis



Grandpa's hatchet—after electrolysis







Clamp extenders

My new best buddy, Doug Casper, sent in this gem of a tip. He built some clever plywood clamp extenders to use when his bar clamps are too short to do the job. I think it's brilliant. And it sure beats the old trick of joining two bar clamps in the middle. If you've tried that, you know it never works very well. Plus, this has the advantage of putting more pressure all along the edge of the boards rather than just where the end of the clamp is. Good job, Doug.

Home canning

I had about a quart of leftover stain that I knew would be ruined the next time I wanted to use it. That's because the can rim and lid were so crusty that there was no way it would ever reseal. What to do? My eye rested on all the canning gear my wife uses to can tomatoes and beets in my shop every fall. What could be a more perfect storage vessel than a hermetically sealed glass jar? Plus, it takes up a fraction of the space a gallon can does. I'm going to start using these jars for varnish, paints, everything. Maybe I'll even score a blue ribbon at the county fair.

You can get $100 for your Shop Rat tip!
See p. 2 for details.

HANDY HINTS®

Temporary valet rod



We often need temporary clothes-hanging space around the house, so we keep an extra shower tension bar handy. We put it between the jambs in the laundry room door on heavy laundry days. And other times I use it in our bedroom closet to pack for trips or stick it in the closet opening in the guest room/den so overnight guests can hang up their clothes. It's a quick and easy way to gain an extra closet!



Anthony Meyers



Quick sanding cleanup

If you're sanding a small drywall patch or drilling a hole and you don't want to haul out the vacuum cleaner to clean up after such a small job, use a fabric softener sheet instead. It acts like a magnet for sawdust and drywall dust—one or two swipes and your cleanup is done.

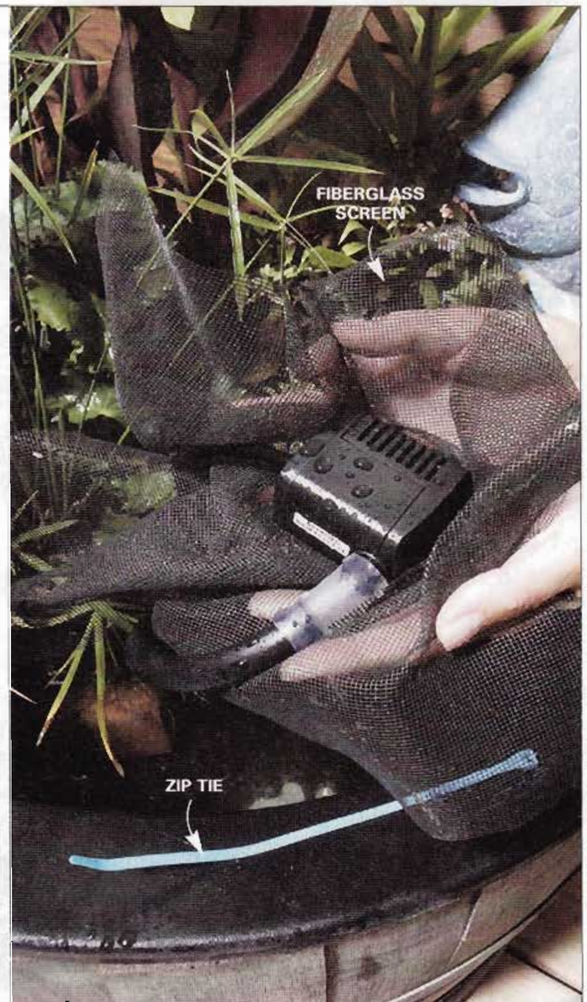
Pat Juenemann

Keep pond pumps from clogging

Filters on small outdoor pond pumps can clog up quickly with leaves and debris from nearby plants. You can keep your pump flowing freely for longer just by enclosing it in a simple filter made from fiberglass screen mesh. Wrap the pump loosely with a square of mesh, then close the top with a zip tie or piece of wire. When you notice the water flow weakening, just rinse the gunk off the screen.

Rod Schwartz





Art Direction BECKY PFLUGER · Photography TOM FENENGA unless otherwise noted

Low-cost, lightweight 8-ft. level

A good 8-ft. level can cost almost $200, but you can make a good substitute with a steel stud and a 2- or 4-ft. level. Unlike wood, steel studs are always straight and weigh almost nothing. And if your level is magnetic, you can stick it to the stud for vertical work.

Stephen Rusk



READER PHOTO

Get $100 for your Handy Hint!
See p. 2 for details.



We want your feedback!
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Dishwasher double duty

It can take forever to wash greasy dust off hard-to-clean items like switch plates, light fixture covers and stove drip pans. Why not do it the easy way and just throw them into the dishwasher? It really works great on items made out of plastic, aluminum or steel—especially items like vent covers that have lots of gaps and detailing. Toss them into the top rack and send them through a normal cycle. Don't do this with things that are enameled, painted, plated or made of brass or wood.

Jeff Robinson

PVC curling iron holsters



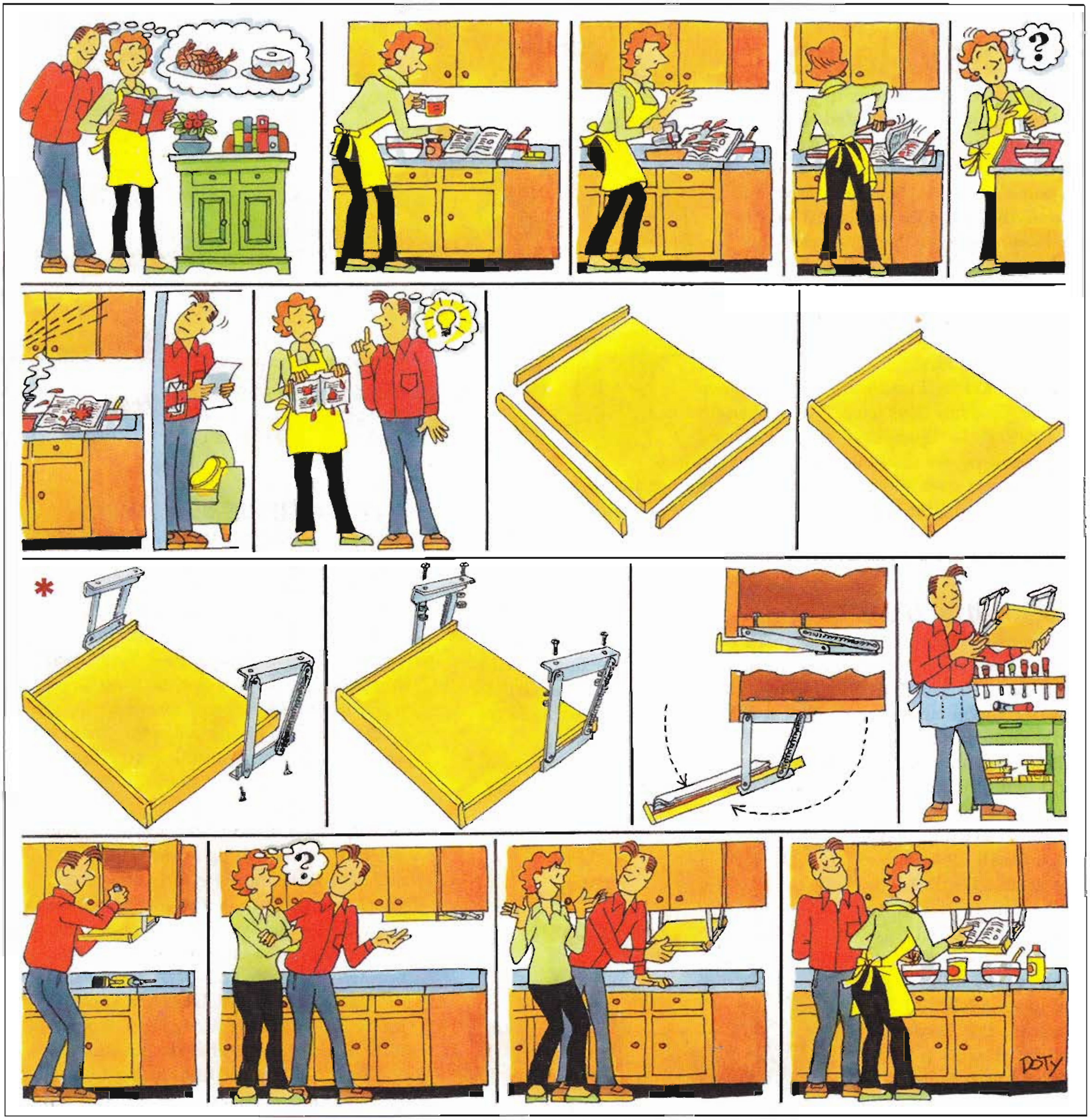
I hated the messy look of my curling irons lying on the vanity or the toilet tank. They were always in the way, and the cords kept falling into the sink or onto the floor. I solved the problem with PVC pipe. I used hook-and-loop tape to attach 5-in. lengths of 2-in.-diameter pipe to the vanity door to hold my curling irons. I did the same thing with 3-in. pieces of 1-1/2-in.-diameter pipe to hold the cords. Just measure your curling irons to see how long your "holsters" need to be. Let your curling irons cool before you stow them away.

Carol Schell



WORDLESS WORKSHOP™ Cookbook rack

by Roy Doty
wordless@thefamilyhandyman.com



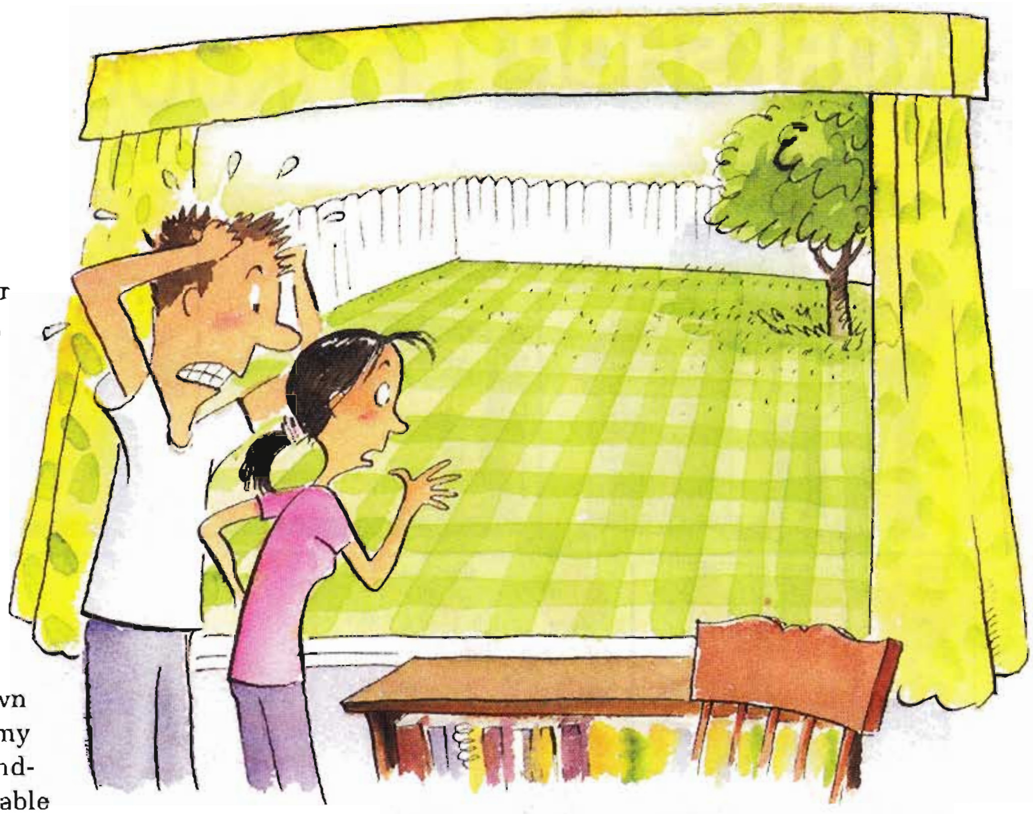
Our thanks go to Terri Schultz, Westchester, OH, for this idea.

Get $100 for your Wordless Workshop idea!

See Contributor Guidelines on p. 2.

*Note: You can order a pair of the special hinges (part No. KVM-UCR-Hinge-N; $32) from thehardwarehut.com (800-708-6649).

GREAT GOOFS



My plaid lawn

I bought a drop spreader to fertilize our malnourished lawn. I loaded the hopper, set the drop rate and went to work. After spreading fertilizer down one row, I measured over to the next row and pulled the spreader backward across the lawn. I covered the entire yard this way—pushing the spreader in one direction, then pulling it back the other way. Then I spread fertilizer again, this time going perpendicular to my first pattern.

All seemed well and good until the lawn greened up a few days later. That's when my wife called me upstairs. From the second-story window, we could see an unmistakable plaid pattern over the whole lawn. It turns out that my spreader only drops fertilizer when you're pushing, not pulling. Oops!

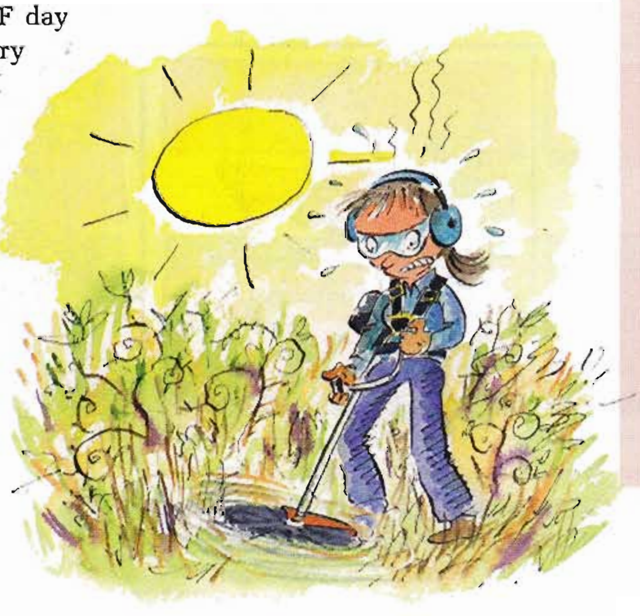
— *Eric Jones*

Brush-cutter blues

My friend Debby had a ton of brush cutting to do in the woods behind her house. "Debby, you *have* to borrow my commercial-grade brush cutter. This thing cuts brush like a razor cuts hair!" I bragged. Before she came to pick it up, I installed a new blade to really impress her.

The following week, she let me know that she wasn't impressed at all with my macho tool. She worked her tail off for three sweaty hours on a 90-degree F day without getting very much brush cleared. I was puzzled—until I noticed that all the teeth were nearly ground off the brand-new blade. You guessed it. I'd installed the blade upside down and the teeth were facing backward. I couldn't let her buy me a new $30 blade, even though she offered.

— *Tim Johnson*



Nuts and bolts of washers

When my washing machine suddenly started smoking (the motor, I mean!), I turned it off, pulled the back access panel free and checked the motor. It stank like burned motor windings, but everything else looked fine. Instead of springing for a new washer, I replaced the motor. Everything seemed to be working again, giving me a fine feeling of another DIY conquest. But 10 minutes into the next load, the motor burned out a second time.

At that point, I decided to buy a new machine. After setting aside the old one and wrestling the new unit downstairs and hooking it up, I moved the clothes from the broken washer to the new one. As I pulled out the last pair of blue jeans, I noticed a 3-in. nail that had fallen through a hole in the drum and kept the motor from turning. Now I have two perfectly good washers and one good motor. Oh, well. I'm not the first person to ruin something with an errant nail.

— *Robert Collins*

Editor BRETT MARTIN · Art Direction MARY SCHWENDER · Illustrations STEVE BJÖRKMAN

Got your own do-it-yourself mistake?
Get $100 for your Great Goof!
See Contributor Guidelines on p. 2.





